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**SANITATION, INC. CLOSED LANDFILL
LEWISTOWN, MONTANA
License #291
JUNE 2015 GROUNDWATER SAMPLING REPORT**

Prepared for:
Barry Damschen Consulting, LLC

Prepared by:
Hydrometrics, Inc.
Consulting Scientists & Engineers 
3020 Bozeman Avenue
Helena, MT 59601

September 2015



BARRY DAMSCHEN CONSULTING, LLC

Engineering • Solid Waste Management • Grant Administration

September 1, 2015

Mr. John Collins
Solid Waste Program
MT Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear John,

Please find enclosed our copy of the groundwater results for the Spring 2015 sampling event at the Sanitation Inc. landfill. The samples were collected on June 3, 2015.

As indicated in the attached report, there does not appear to be any significant changes in the quality of the groundwater from the last sampling event. The total number of reported VOC concentrations in June 2015 (9) was lower than in June 2014 (11). The VOC concentrations were similar to those previously observed at the site.

If you have any questions, please do not hesitate to call me or Mark Walker.

Very truly yours,
BARRY DAMSCHEN CONSULTING, LLC

Barry E. Damschen, P.E.
Project Manager

Enclosure

c: Sanitation Inc.



September 1, 2015

Mr. Barry Damschen, P.E.
Barry Damschen Consulting, LLC
P.O. Box 7599
Helena, MT 59604

RE: June 2015 Groundwater Monitoring Results
Closed Sanitation, Inc. Landfill, Lewistown, MT (License #291)

Dear Barry,

Hydrometrics, under contract to Barry Damschen Consulting, LLC, has prepared this letter report to transmit the results of the June 2015 groundwater monitoring at the Closed Sanitation, Inc. Landfill in Lewistown, Montana. Sampling activities were conducted on June 3, 2015.

Groundwater Flow Results

Monitoring locations for the Sanitation, Inc. landfill are shown on Figure 1. Static water levels were collected at monitoring wells SIMW-2, SIMW-3, and SIMW-4, and at piezometer SIP-1 during the June 2015 monitoring event. Water level measurements and associated groundwater elevations are summarized in Table 1, and are shown on Figure 1. Groundwater hydrographs (elevation changes over time) for site wells are shown in Figure 2. The general shallow groundwater flow direction at the site is to the north and west. All site wells showed elevation increases from June 2014 to June 2015, ranging from a 1.90 foot increase at SIP-1 to a 6.39 foot increase at SIMW-4. As observed during previous monitoring events, groundwater level fluctuations were largest at well SIMW-4, likely due to varying influence from the nearby detention pond (Figure 1). Water has not been observed in the pond for the last four years. Overall, water levels have remained stable over the fifteen year period shown on the site hydrograph (Figure 2).

The hydraulic gradient at the site appears to increase with proximity to the small draw to the north. An estimated average gradient of 0.17 was calculated for the site, based on the distance between the 4080-ft and 4050-ft groundwater elevation contours with a flow direction toward SIMW-4 (Figure 1). The groundwater seepage velocity can be estimated with previously determined (Entranco, 2002) values for aquifer porosity (estimated at 0.35), and hydraulic conductivity (9.2 ft/day), using the formula $V_s = KI/n_e$ where V_s = seepage velocity (ft/day); K = hydraulic conductivity (ft/day); I = hydraulic gradient (dimensionless); and n_e = porosity (dimensionless).

Using the values cited above, the estimated groundwater seepage velocity near well SIMW-4 for June 2015 is 4.5 ft/day or about 1640 ft/year.

Groundwater Quality Results

Water quality samples were collected from wells SIMW-2, SIMW-3, and SIMW-4 by bailing. Well SIMW-1 was previously removed from the groundwater monitoring program, so no sample or water level was collected at this well. Quality control (QC) samples included a field duplicate (collected at SIMW-4), a trip blank, and standard internal laboratory QC samples. Samples were submitted to Energy Laboratories in Helena, Montana for analysis of Solid Waste Table 1 inorganic parameters and volatile organic compounds (VOCs). Field sampling notes and laboratory analytical reports are in Attachment 1.

Trend plots were compiled for selected parameters and are in Attachment 1. Statistical Reports are located on the compact disc in Attachment 2 and field sampling notes and laboratory analytical reports are in Attachment 3.

Quality Control Results

All parameters were below reporting limits in the trip blank, as shown in Attachment 3. The duplicate sample pair showed very good agreement for inorganic parameters, compared with the control limits presented in EPA guidance (EPA, 2010). Suggested duplicate sample control limits for inorganic parameters are <20% relative percent difference (RPD) for duplicate pairs with results $\geq$ five times the reporting limit (RL), or $\pm$ the reporting limit for duplicate pairs with one or both results < five times the reporting limit. The June 2015 inorganic groundwater data for the closed Sanitation, Inc. landfill sample-duplicate pair showed an average RPD of 7.2%. Dissolved copper and mercury results agreed to within the $\pm$ RL control limit. Note that for sample-duplicate pairs, the higher of the two values reported is retained in the database and used for statistical testing purposes (or the lower of the two values for pH).

Nitrate + nitrate concentrations in the original sample (0.19 mg/L) and duplicate sample (0.14 mg/L) exceeded the duplicate criteria cited above, with an RPD of 30.3%. Nitrate + nitrite concentrations at this well (SIMW-4) have shown significant variability during previous monitoring events, ranging from <0.05 mg/L to 1.7 mg/L. Therefore, the discrepancy in the June 2015 sample-duplicate pair results for nitrate + nitrite is not considered significant in terms of statistical analysis or data interpretation.

EPA guidance for organic data review (EPA, 2008) does not list suggested control limits for duplicate samples. However, the RPDs for benzene and chlorobenzene (both 0.0%) in the June 2015 sample-duplicate pair demonstrated excellent agreement.

It should be noted that, in order to achieve the required reporting values (RRVs) in the current (October 2012) version of MDEQ Circular DEQ-7, and in accordance with current MDEQ Solid Waste Section guidance, lower laboratory reporting limits were used for many dissolved metals beginning with the June 2013 monitoring event, compared with previous typical reporting limits. In many cases, the updated RRV-based reporting limits are significantly lower than the historic limits. These reporting limit changes will impact the statistical analysis of metals data, since metals which were previously reported as consistently below the detection limit may now be

quantified at concentrations several orders of magnitude lower than the previous limit. Until additional data points are obtained to develop a more robust data set at the new lower reporting limits, it is likely that the power of the statistical tests to identify statistically significant exceedances and/or trends for metals will be diminished.

Statistical Testing Results

Intrawell prediction limits were used for statistical testing of the June 2015 groundwater data, since none of the three wells currently monitored can be considered upgradient of the waste fill areas. Baseline data for each parameter at each well included all appropriate data prior to the current sampling event. 'Historical' outliers observed prior to June 2009 were identified and have been permanently removed from the database as described in the June 2009 statistical report (Hydrometrics, 2010), and as recommended in a subsequent letter from MDEQ (MDEQ, 2010).

In addition, results exceeding prediction limits during June 2009 and subsequent monitoring events are also removed from the database for distribution and prediction limit testing. Note, however, that previous prediction limit exceedances are shown on the trend plots in Attachment 1 (and are included for trend testing if necessary). In the cases of certain metals for which lowered detection limits were used beginning in June 2013, detectable values at concentrations lower than previously utilized detection limits are not considered outliers. Outliers that were removed for purposes of intrawell statistical testing are tabulated in Attachment 2.

The Shapiro-Wilks Test of Normality was used to determine the distribution of the data (after removal of outliers) for each parameter at each well. June 2015 results were then compared with parametric or nonparametric prediction limits, based on the results of the normality test. In some cases (due to recently lowered metals reporting limit), the maximum value observed in the background data set was used as the prediction limit. Tests for trend (Mann-Kendall) were conducted for any parameters showing a prediction limit exceedance, except in cases where insufficient quantifiable data for trend testing was available. The intrawell prediction limit results are summarized in Table 2, and detailed statistical reports are in Attachment 2.

Inorganic Parameters

In general, inorganic parameter concentrations for June 2015 were similar to values observed during recent monitoring events. Groundwater pH in the Sanitation, Inc. monitoring wells ranged from 7.0 to 7.3 in June 2015, and SC values ranged from 1360 $\mu\text{mhos/cm}$ at SIMW-3 to 2440 $\mu\text{mhos/cm}$ at SIMW-4 (Table 2). The nitrate + nitrite concentration decreased slightly at well SIMW-3 from 10.5 mg/L in June 2014 to 9.3 mg/L in June 2015, just below the DEQ-7 groundwater standard of 10 mg/L. Detectable dissolved metals in June 2015 groundwater samples included the following: barium and cadmium at well SIMW-2; barium, cadmium, iron, and selenium at well SIMW-3; and barium, cadmium, copper, iron, lead, mercury, and nickel at well SIMW-4 (Table 2). For many of these low concentration metals parameters, quantifiable concentrations have only been observed beginning in June 2013, attributable to the establishment of lower reporting limits for many constituents, as discussed above.

Prediction limit exceedances were noted for barium and cadmium at SIMW-2; conductivity and sulfate at well SIMW-3; and barium and mercury at SIMW-4 (Table 2). Statistically significant increasing trends were obtained for conductivity and sulfate at SIMW-3. Trend testing was not conducted for dissolved metals parameters, due to a lack of sufficient quantifiable concentrations (above the reporting limit) to evaluate trends.

The trend plots in Attachment 1 show slightly increasing trends for conductivity at both SIMW-2 and SIMW-3 over about the last eight years, although the values have recently stabilized. Although June 2015 concentrations were lower than June 2014 concentrations at all three site monitoring wells, sulfate concentrations have increased at well SIMW-3 since about 2008, while concentrations at the other two site wells have shown variable concentrations over the same period (Attachment 1).

The dissolved metals concentrations in June 2015 groundwater samples were consistent with previously observed concentrations for these constituents. As noted in recent groundwater statistical reports, additional data collection at the lower metals reporting limits now in effect will be required to further establish baseline concentrations and to evaluate intrawell prediction limit exceedances and/or trends for these parameters.

Organic Parameters

Similar to previous monitoring events, a number of low-level VOC parameters were reported in the June 2015 samples for each of the three sampled wells. In most instances, results were qualified 'J' by the laboratory as present, but below the laboratory reporting limit, as follows:

Site	6/15 VOCs Reported (µg/L)
SIMW-2	dichlorodifluoromethane (0.44 J)
	1,1-dichloroethane (0.24 J)
	tetrachloroethene (0.14 J)
	1,1,1-trichloroethane (0.65)
	trichlorofluoromethane (0.17 J)
SIMW-3	1,1,1-trichloroethane (0.37 J)
	trichlorofluoromethane (0.67)
SIMW-4	benzene (0.29 J)
	chlorobenzene (1.1)

The number of VOCs reported in June 2015 samples (nine) was slightly lower than the number reported in June 2014 samples (eleven). Reported VOC concentrations in June 2015 were similar to concentrations previously observed in site groundwater.

Mann-Kendall trend tests were conducted for each of the reported VOC parameters. Statistically significant increasing trends were obtained for most VOCs tested (several VOCs were not tested for trend due to a lack of sufficient quantified data for meaningful trend testing) (Table 2).

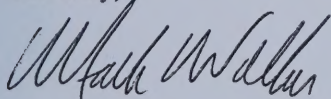
Inspection of the trend plots in Attachment 1, however, shows that many VOC concentrations follow a typical pattern of periods of sporadic low-level detections interspersed with non-detectable values, with concentrations remaining relatively stable over time. The trend plots do not visually indicate any current increasing trends in VOC concentrations, and it appears that the statistically significant increasing trends for VOCs noted in this report are due in large part to the replacement of below detect values with zero prior to trend testing. The chlorobenzene concentration at well SIMW-4 (1.1 µg/L) was slightly higher than the previous maximum observed concentration for this constituent (0.78 µg/L).

Summary

Groundwater elevation data for the June 2015 groundwater-monitoring event at the Closed Sanitation, Inc. Landfill were consistent with historic results, indicating flow to the north and west and an approximate seepage velocity of 4.5 ft/day. Groundwater samples collected in June 2015 also showed results consistent with previous data, in terms of inorganic parameter prediction limit exceedances, trends, and reported VOC concentrations. A number of low level dissolved metals were reported again in June 2015, after detection limits were lowered beginning with the June 2013 monitoring event. Low (J-qualified) VOC concentrations were reported at all three monitoring wells, along with increasing trend test results for most of these parameters. However, as shown on the trend plots, detected VOC parameters show similar patterns of sporadic low values interspersed with below detect values, and increasing trend test results are largely a function of replacement of nondetect values with zero for purposes of trend testing. June 2015 VOC concentrations were largely within previously observed concentration ranges for site monitoring wells, and show generally stable trends.

If you have any questions regarding this data report, please feel free to contact me at (406) 443-4150, Ext. 146.

Sincerely,



Mark Walker
Environmental Scientist

Enclosures

c: Sanitation, Inc.
Barry Damschen Consulting, LLC

REFERENCES

- Entranco, 2002. Sanitation, Inc. Letter Report from Bruce Siegmund to Pat Potts, MDEQ dated March 21, 2002.
- EPA, 2008. USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review. Office of Superfund Remediation and Technology Innovation, EPA 540-R-08-01, June 2008.
- EPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities -- Unified Guidance. Office of Resource Conservation and Recovery, Program Implementation and Information Division, EPA 530-R-09-007, March 2009.
- EPA, 2010. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review. Office of Superfund Remediation and Technology Innovation, EPA 540-R-10-011, January 2010.
- Hydrometrics, Inc., 2010. Sanitation, Inc. Landfill, Lewistown, Montana -- June 2009 Groundwater Sampling Report. Prepared for Barry Damschen Consulting, LLC. May 2010.
- MDEQ, 2010. Letter to Mr. William Spoja (Sanitation Inc.) from Mr. Martin van Oort (MDEQ) RE: Closed Sanitation Inc. Landfill -- Fergus County -- License #291, June 2009 Groundwater Sampling Report. Dated June 2, 2010.

TABLE 1. SUMMARY OF THE DATA COLLECTION

Year	Area	Sample Size	Sample Size
1997	1997	1997	1997
1998	1998	1998	1998
1999	1999	1999	1999
2000	2000	2000	2000
2001	2001	2001	2001

TABLE 2. SUMMARY OF THE DATA COLLECTION

TABLES

TABLE 1. WATER LEVEL MEASUREMENT RESULTS

Well	June 2015 Static Water Level (ft bmp)	June 2015 Groundwater Elevation (ft)
SIMW-2	33.88	4089.83
SIMW-3	28.81	4082.10
SIMW-4	28.70	4049.37
SIP-1	33.38	4086.86
SIP-2	NM	NM

NOTES: bmp = below measuring point
 NM = not measured

	Value
	7.0
	2440
	158
	115
	58
nitrate	0.19
ba	0.045#
cad	0.00034
co	0.003
ir	0.03
le	0.0003
me	0.000015#
ni	0.035
sele	<0.001
	0.29 (J)^
chl	1.1#
dich	<0.5
1,1-d	<0.5
te	<0.5
1,1,1-	<0.5
trichlor	<0.5

fiction limit

TABLE 2. JUNE 2015 INTRAWELL PREDICTION LIMIT SUMMARY
Closed Sanitation, Inc. Landfill, Lewistown, Montana

Parameter	SIMW-2			SIMW-3			SIMW-4		
	Dist ¹	PL ²	Value	Dist ¹	PL ²	Value	Dist ¹	PL ²	Value
pH (s.u.)	N(95)	6.2-8.0	7.0	N(95)	6.4-8.3	7.3	N(95)	6.4-7.4	7.0
SC (µmhos/cm)	N(95)	1591	1540	ln-N(99)	1229	1360^	N(99)	3398	2440
chloride (mg/L)	N(95)	81	35	N(95)	38	29	N(95)	328	158
sulfate (mg/L)	N(95)	262	150	N(99)	161	173^	N(95)	355	115
COD (mg/L)	NC	NC	<1	ln-N(95)	57	13	N(95)	178	58
nitrate + nitrite (mg/L as N)	N(95)	4.59	2.56	N(95)	12.8	9.3	NN	1.66	0.19
barium (diss) (mg/L)	Max	0.040	0.041#	Max	0.011	0.009	Max	0.043	0.045#
cadmium (diss) (mg/L)	ND	<0.00003	0.00003#	Max	0.00004	0.00004	Max	0.00052	0.00034
copper (diss) (mg/L)	NC	NC	<0.002	NC	NC	<0.002	Max	0.003	0.003
iron (diss) (mg/L)	NC	NC	<0.02	NN	0.66	0.03	NN	2.53	0.03
lead (diss) (mg/L)	NC	NC	<0.0003	NC	NC	<0.0003	Max	0.0005	0.0003
mercury (diss) (mg/L)	NC	NC	<0.000005	NC	NC	<0.000005	Max	0.0000112	0.000015#
nickel (diss) (mg/L)	NC	NC	<0.002	NC	NC	<0.002	N(95)	0.073	0.035
selenium (diss) (mg/L)	NC	NC	<0.001	N(95)	0.026	0.022	NC	NC	<0.001
benzene (µg/L)	NC		<0.5	NC		<0.5	ND		0.29 (J)^
chlorobenzene (µg/L)	NC		<0.5	NC		<0.5	ND		1.1#
dichlorodifluoromethane	ND		0.44 (J)*	ND		<0.5	NC		<0.5
1,1-dichloroethane (µg/L)	ND		0.24 (J)^	NC		<0.5	NC		<0.5
tetrachloroethene	ND		0.14 (J)^	NC		<0.5	NC		<0.5
1,1,1-trichloroethane (µg/L)	ND		0.65^	ND		0.37 (J)^	NC		<0.5
trichlorofluoromethane (µg/L)	ND		0.17 (J)*	ND		0.67^	NC		<0.5

NOTES: ¹ Dist = Distribution; test for normality was conducted using the Shapiro-Wilks test.

N(X) = data normally distributed at X% level of significance

ln-N(X) = data ln-normally distributed at X% level of significance

NN = data not normally or ln-normally distributed at 95% or 99% level of significance.

ND = baseline data below detection limits.

Max = insufficient data at lower detection limits to determine distribution; maximum detectable previous value set as prediction limit

² PL = Prediction limits; calculated as follows:

Normal or ln-normal distribution: parametric intrawell prediction interval (99% one-sided, two-sided for pH)

Non-normal distribution: non-parametric intrawell prediction interval (99% one-sided, two-sided for pH)

ND: any detectable concentrations in compliance wells are considered significant

Bold values indicate statistically significant results.

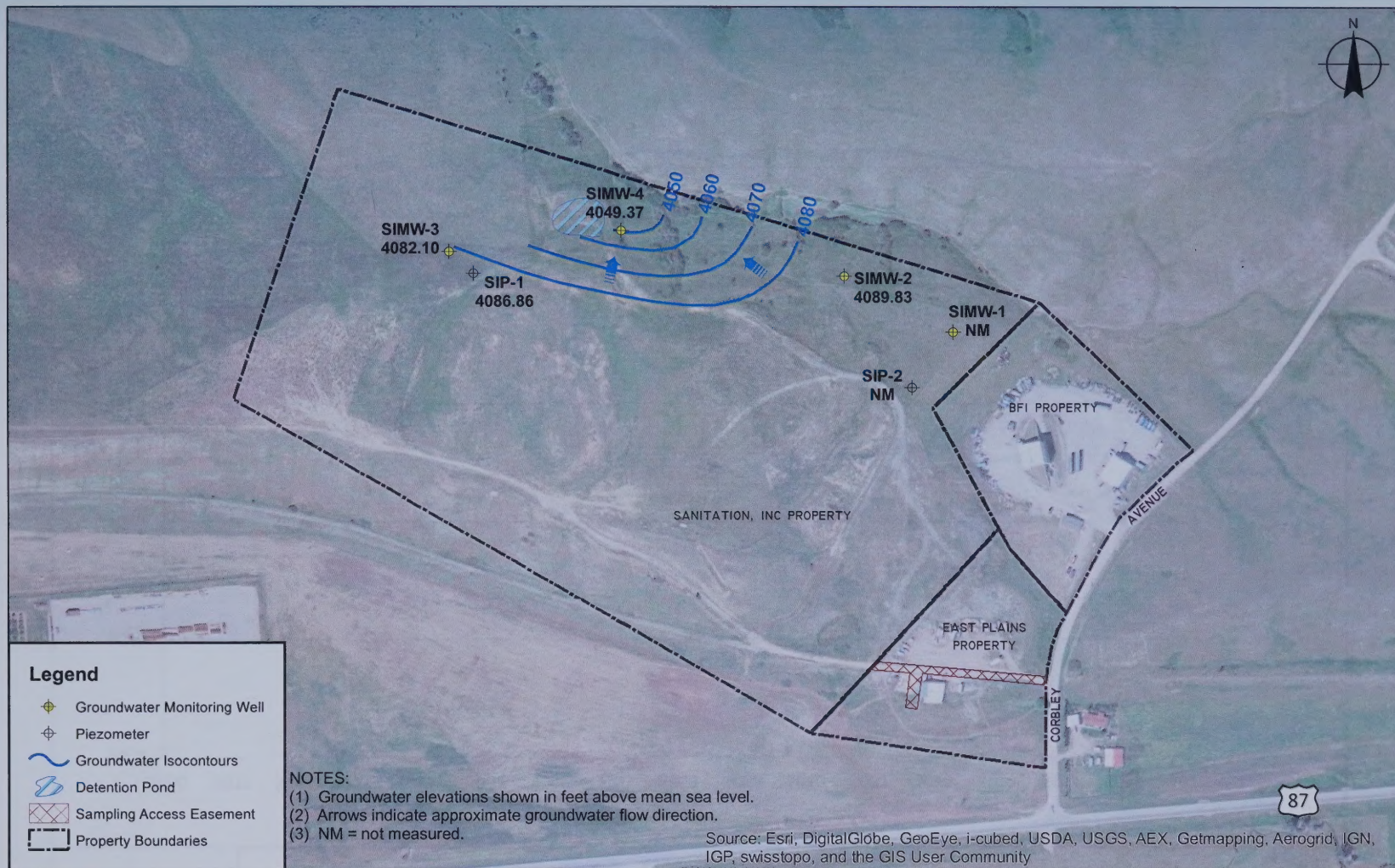
NC = not calculated (most recent sample below detection limit).

#Trend test not conducted due to insufficient data points above reporting limits

*Trend test indicated no significant increasing (or decreasing for pH) trend.

^Trend test indicated a significant increasing trend.

FIGURES



Closed Sanitation, Inc. Landfill
June 2015 Groundwater Monitoring Report

JUNE 2015
GROUNDWATER MONITORING LOCATIONS
AND GROUNDWATER ELEVATIONS

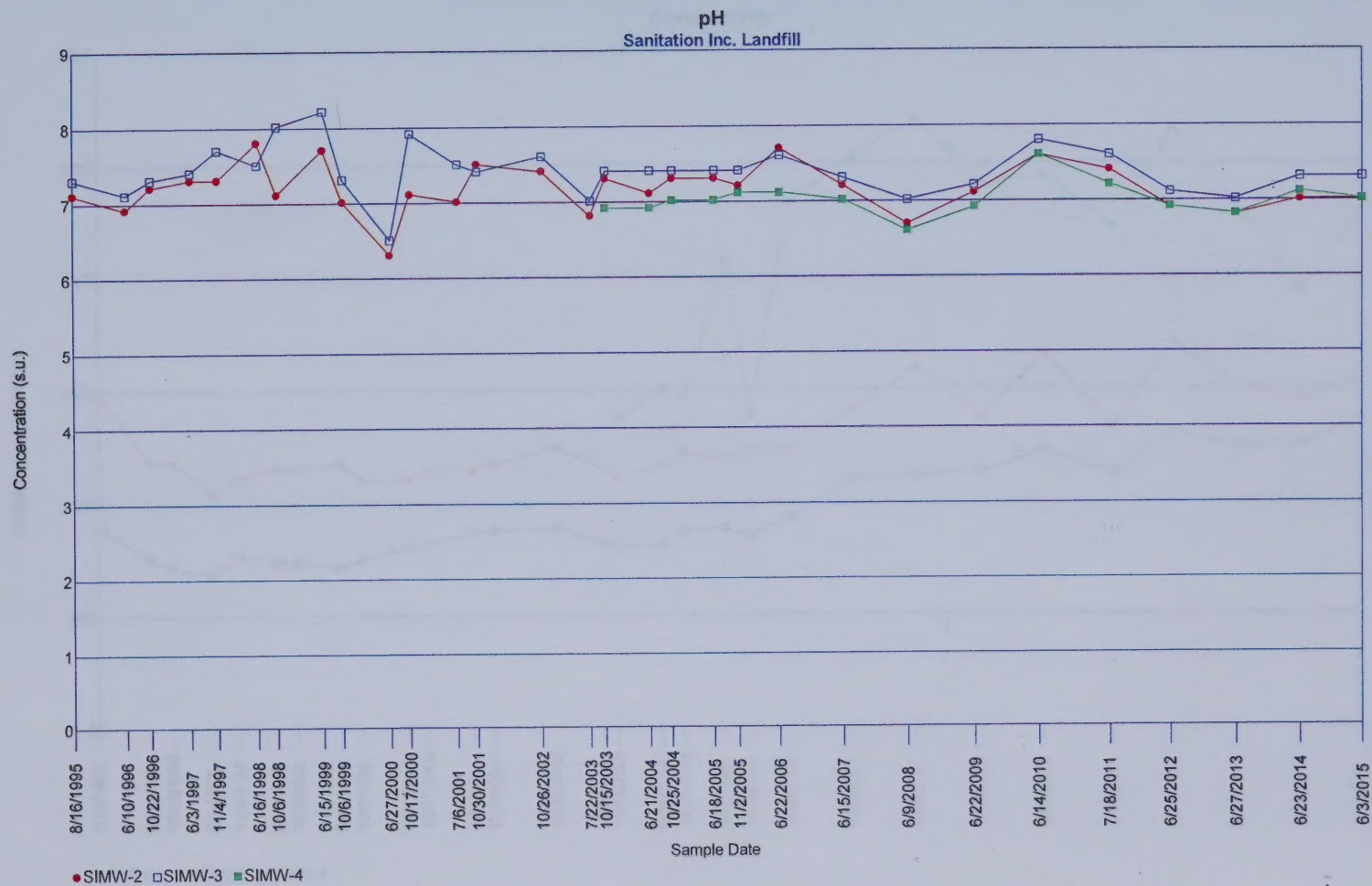
FIGURE

1



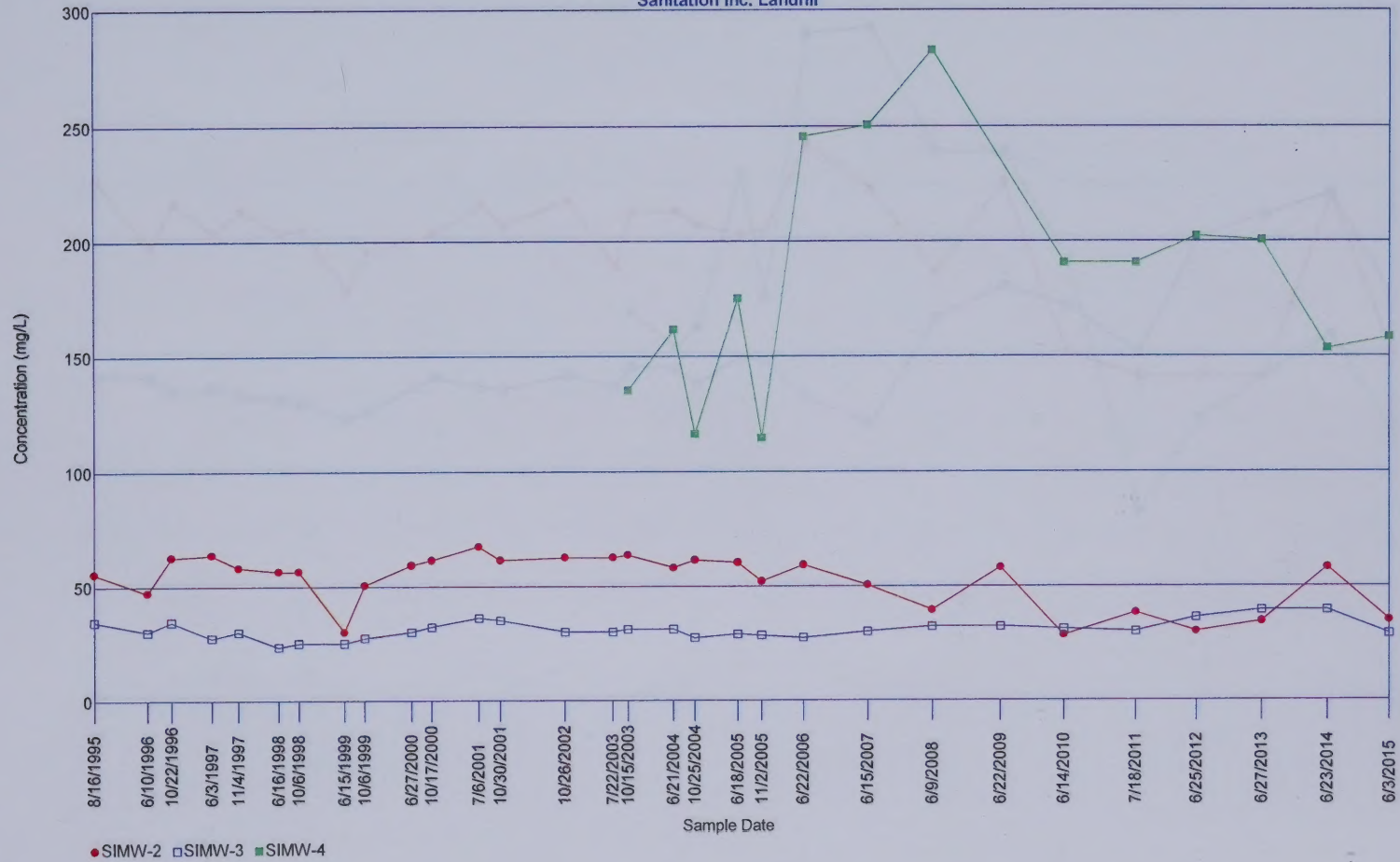
ATTACHMENT 1

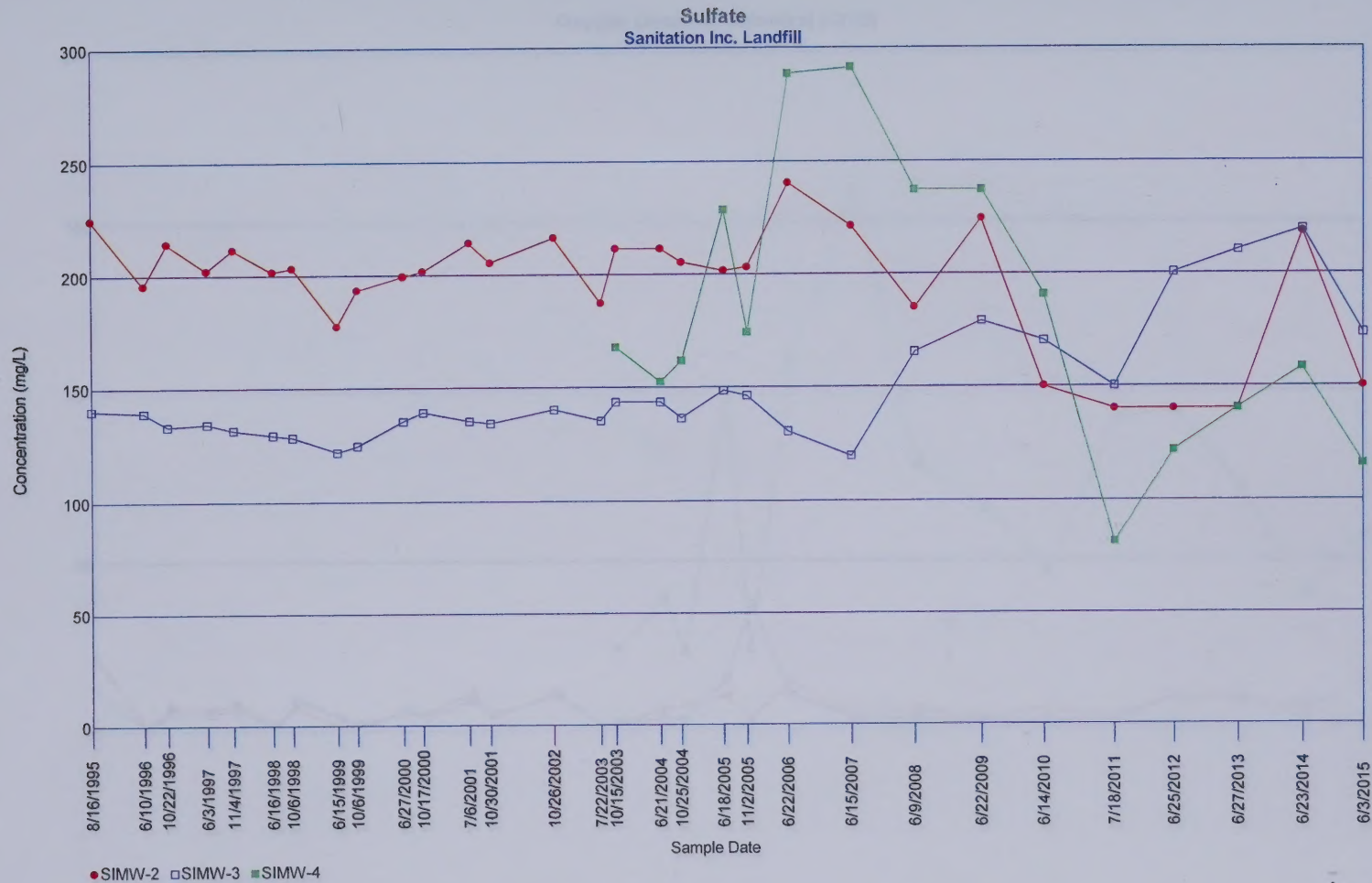
TREND GRAPHS





Chloride
Sanitation Inc. Landfill

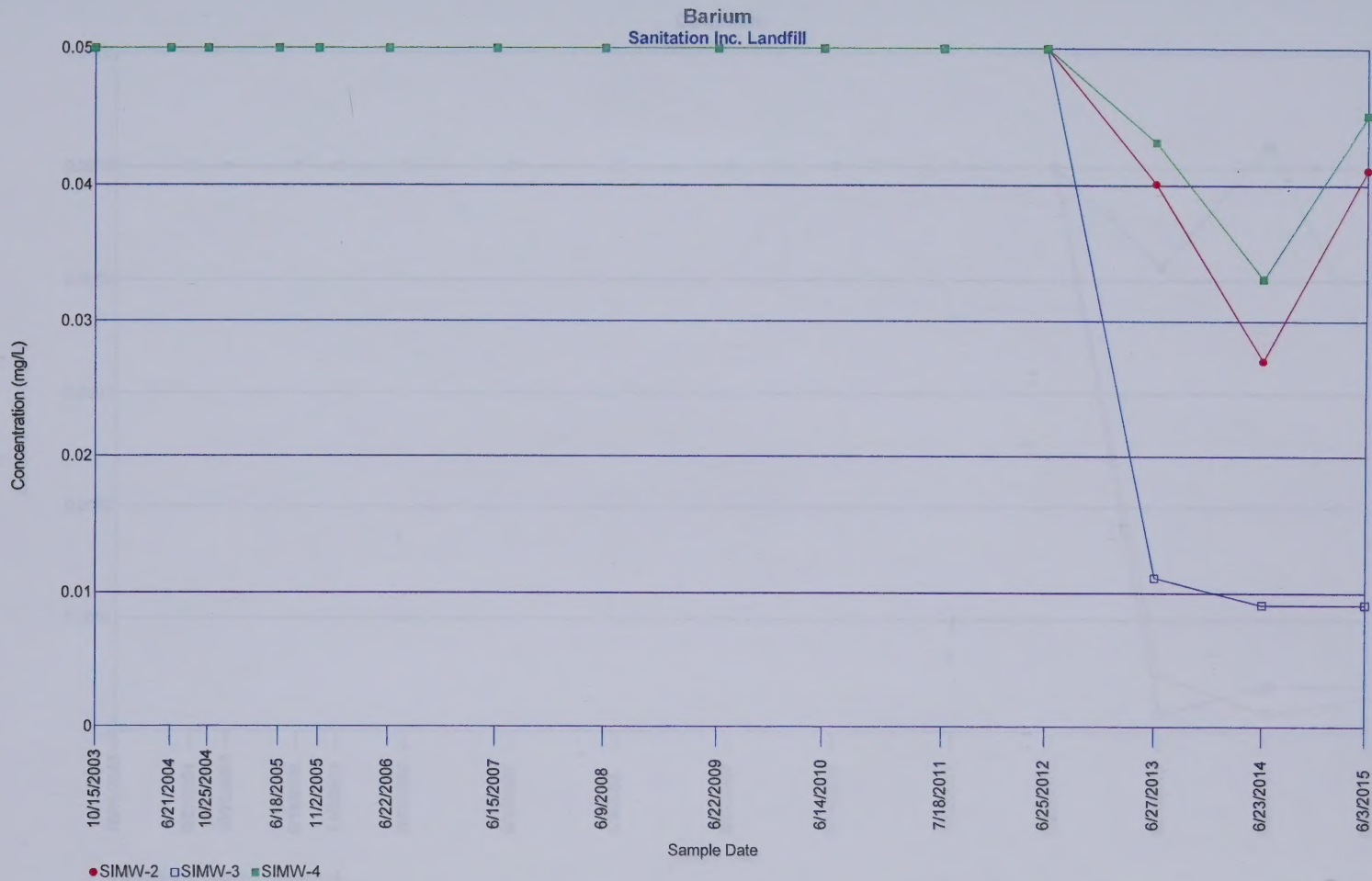


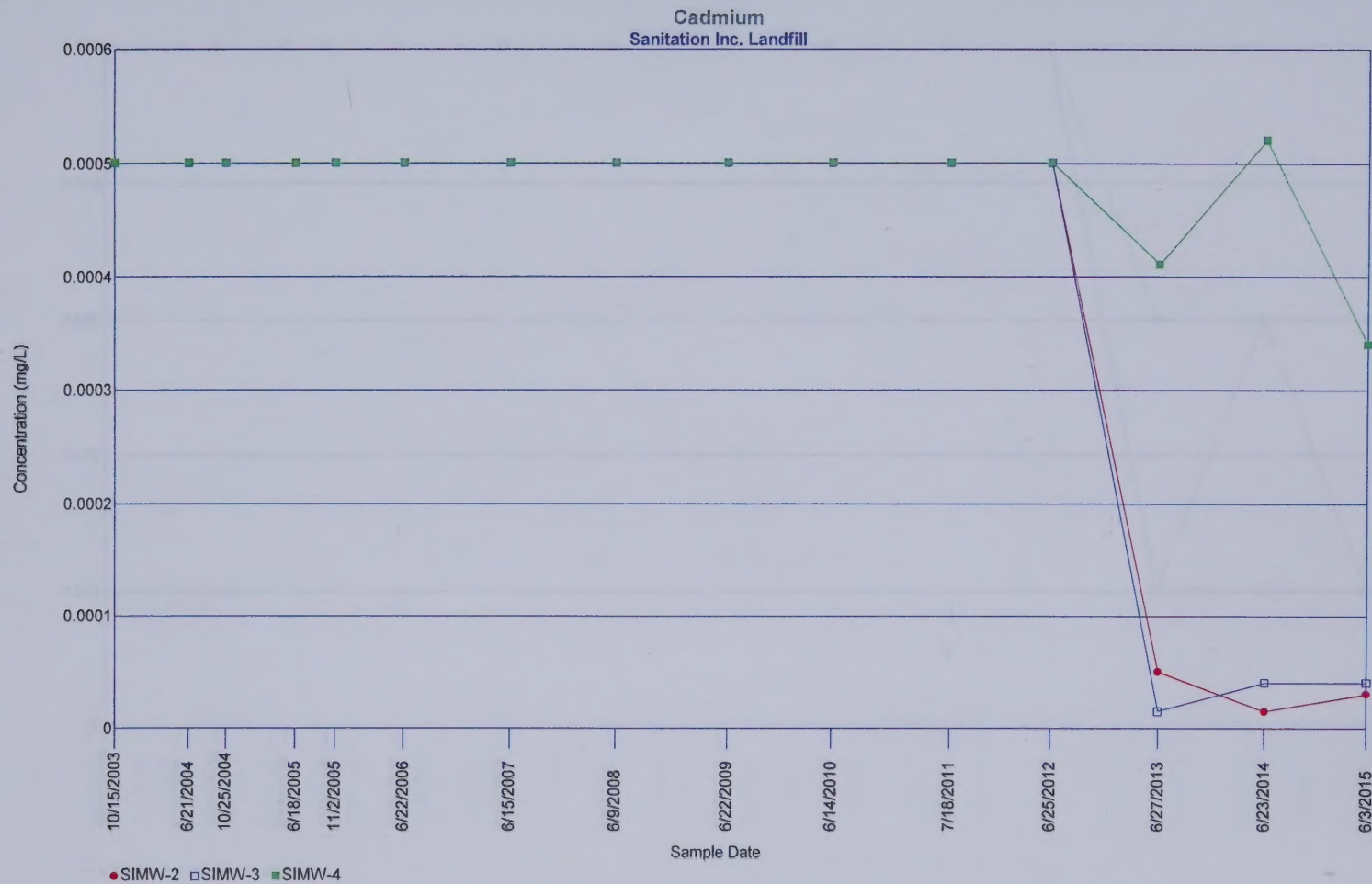


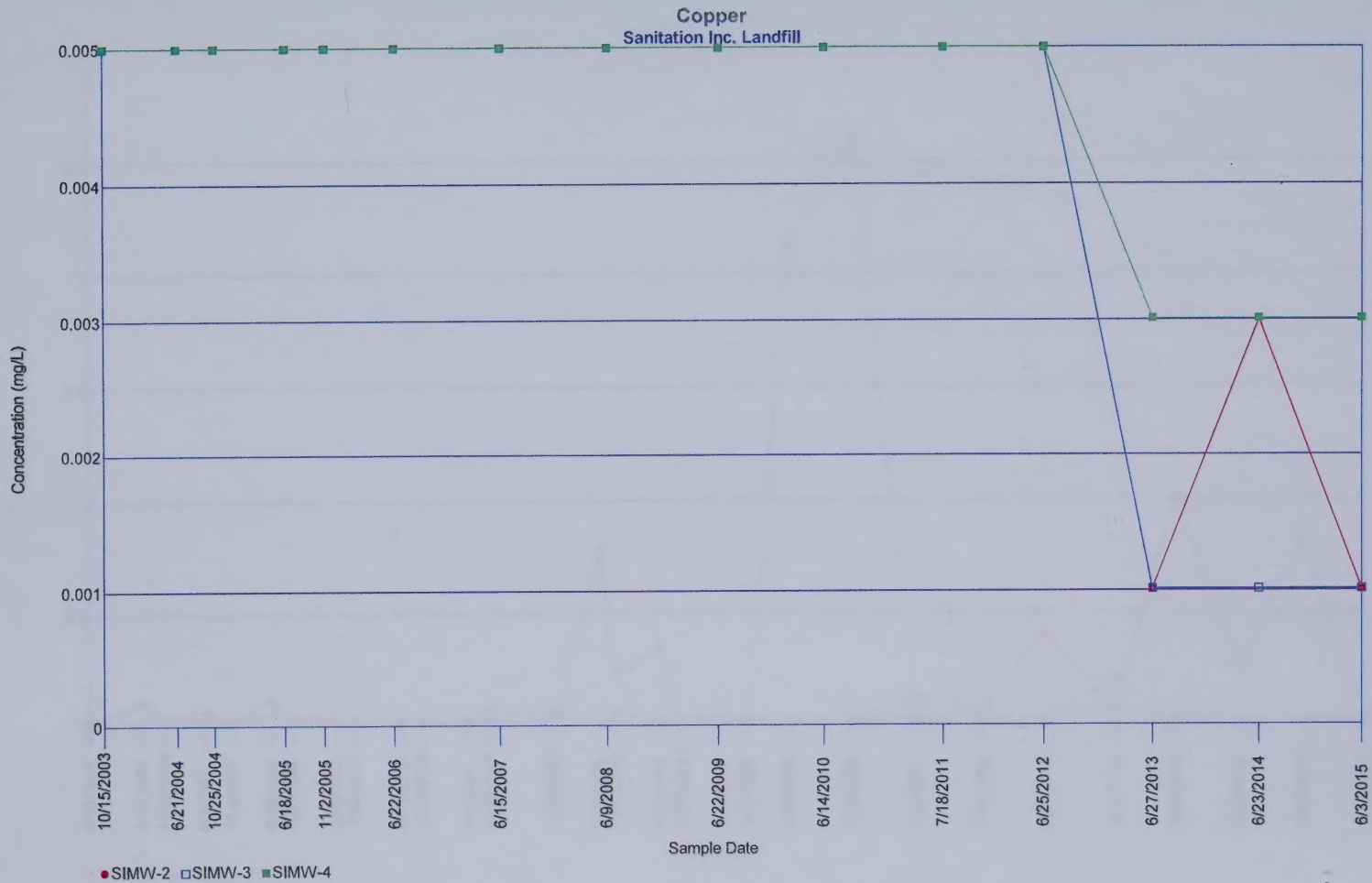
Oxygen Demand, Chemical (COD) Sanitation Inc. Landfill





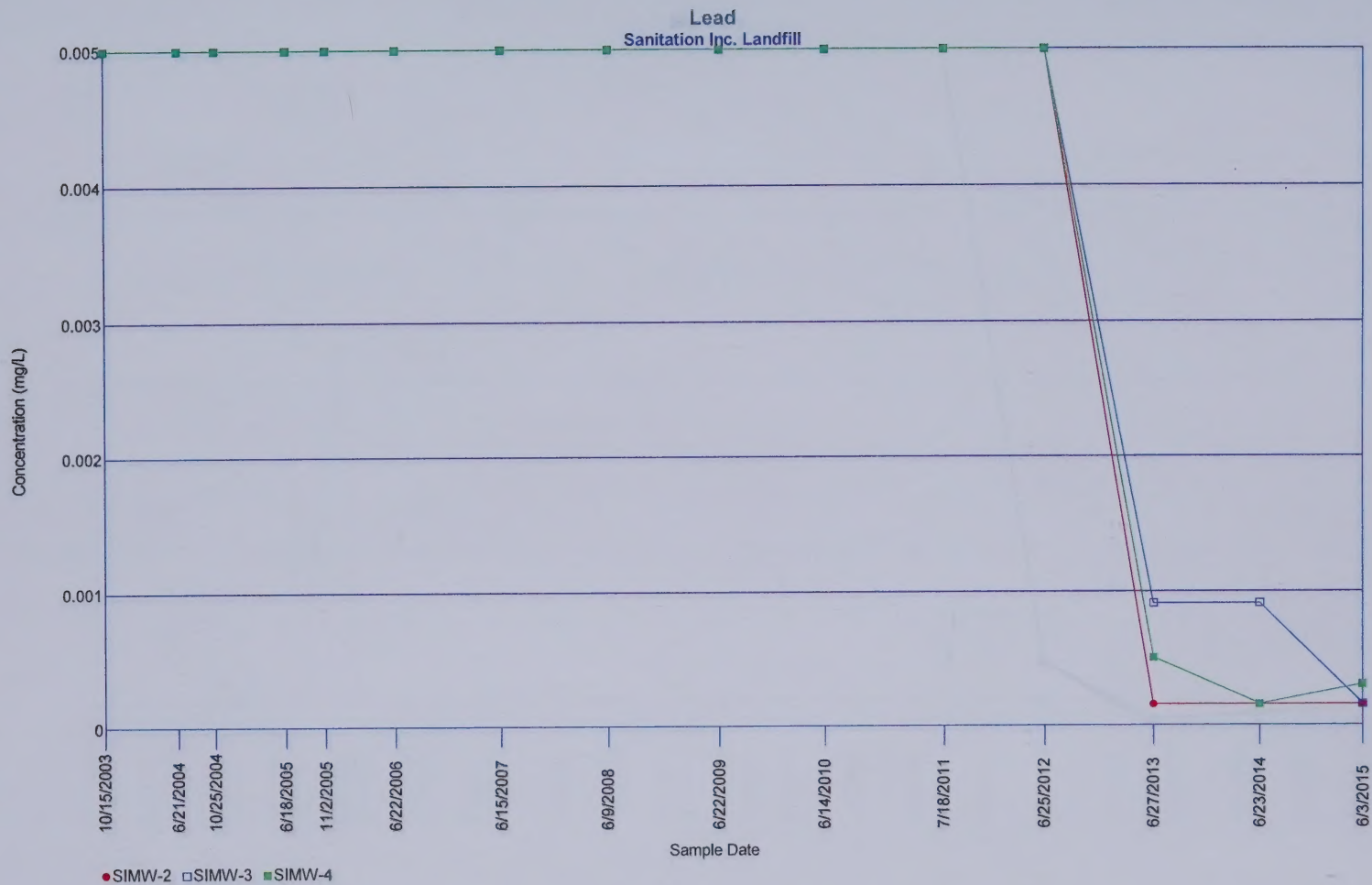


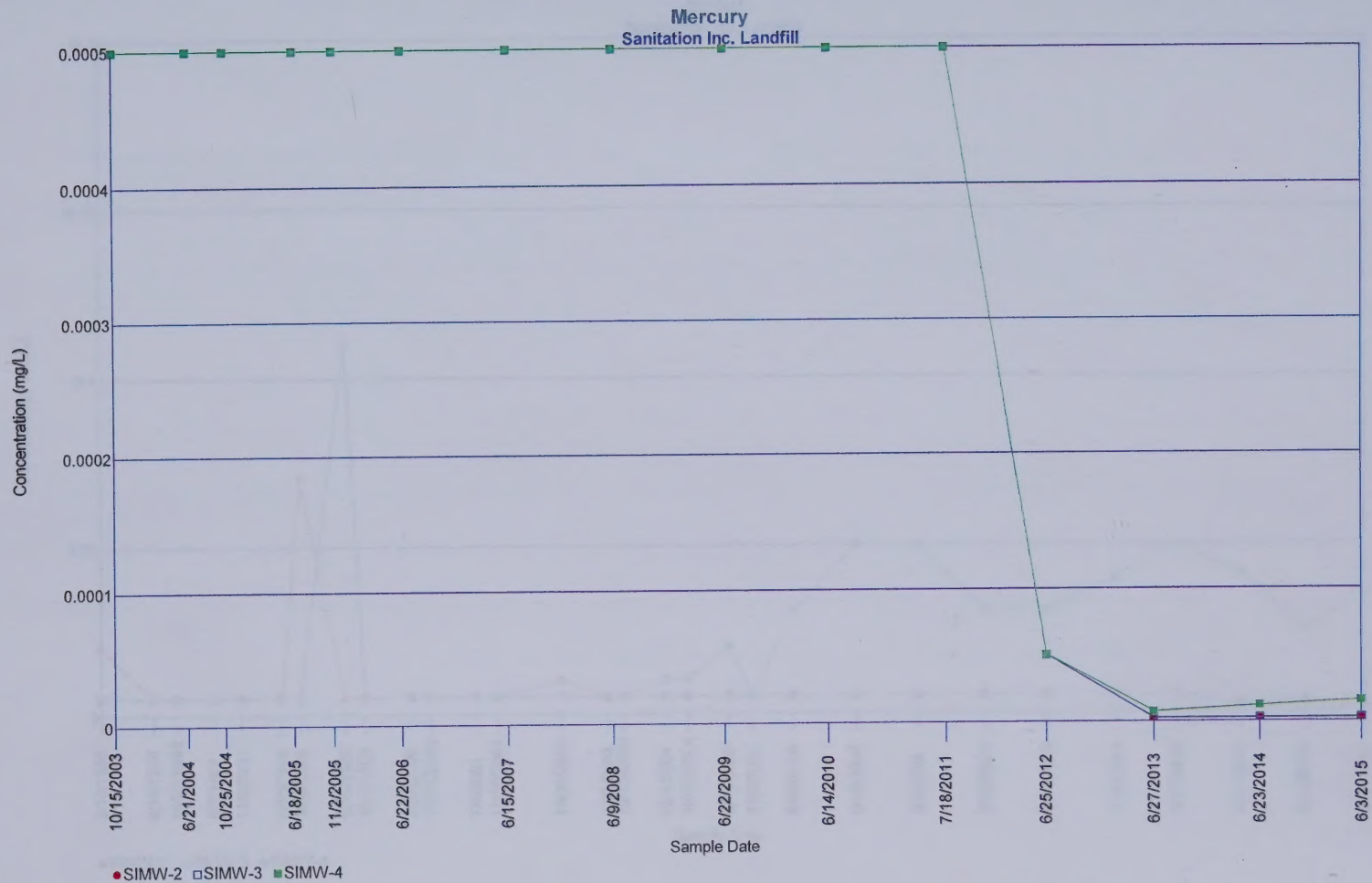




Iron
Sanitation Inc. Landfill

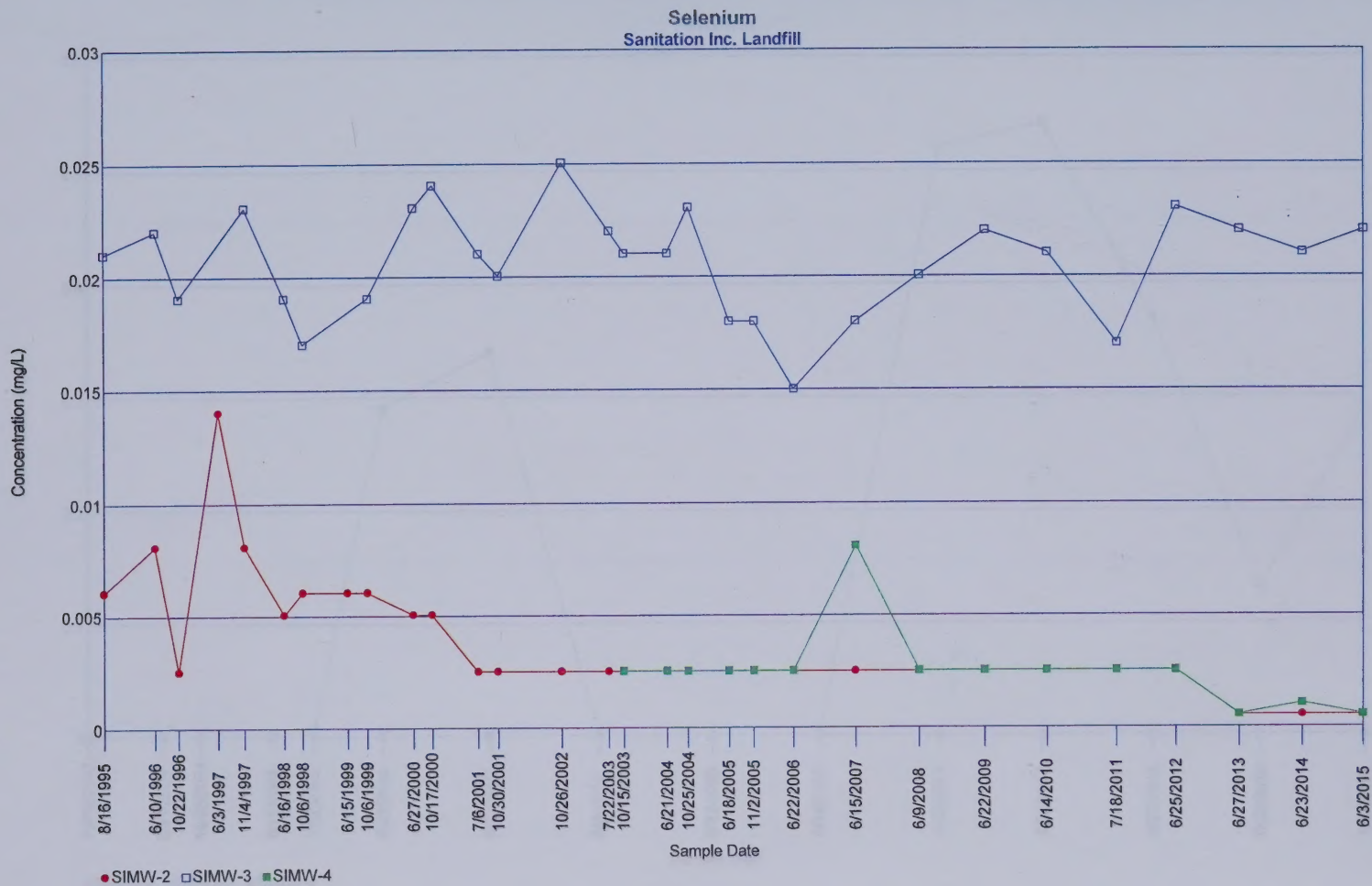






Nickel
Sanitation Inc. Landfill

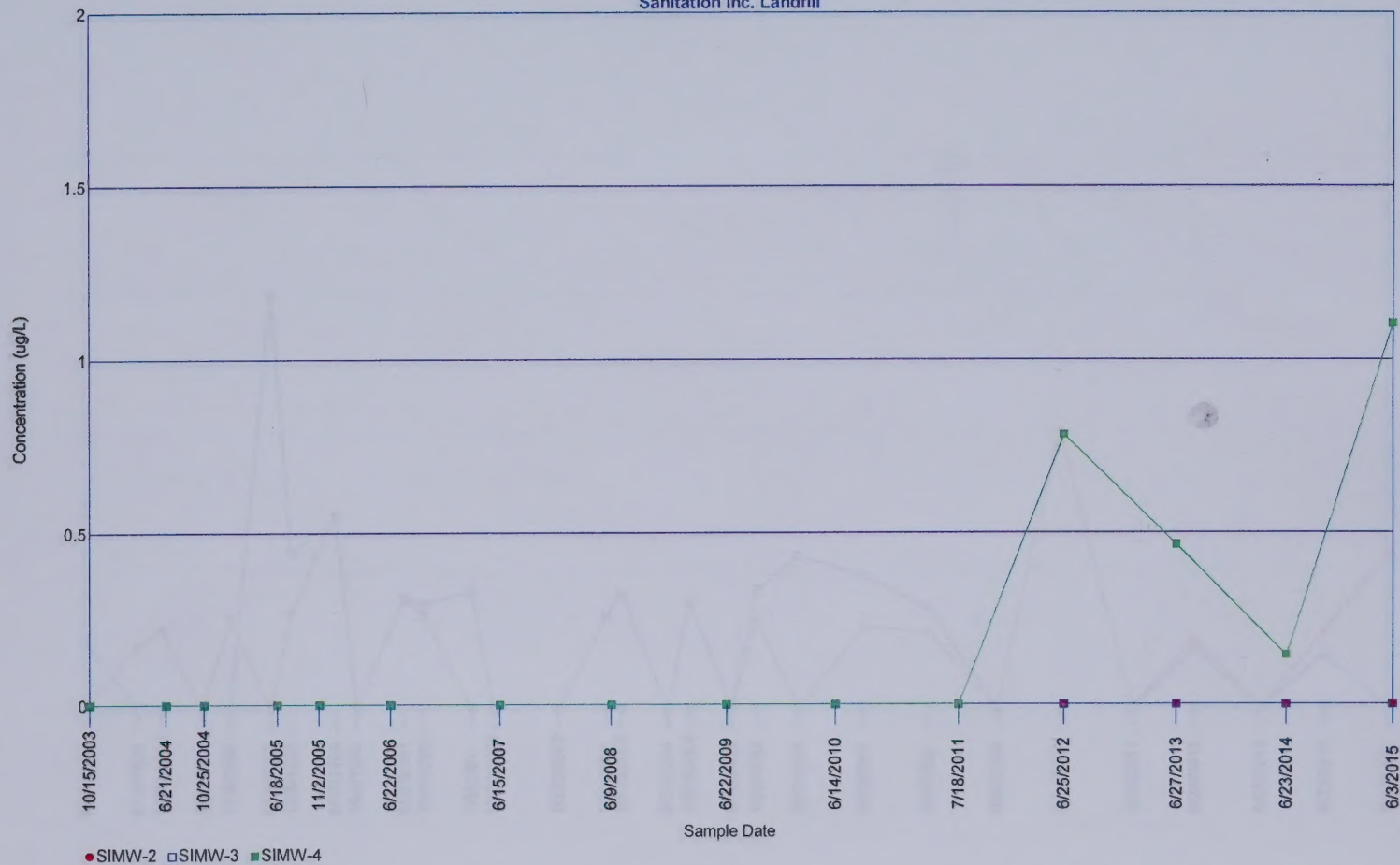




Benzene
Sanitation Inc. Landfill



Chlorobenzene
Sanitation Inc. Landfill





Dichlorodifluoromethane
Sanitation Inc. Landfill



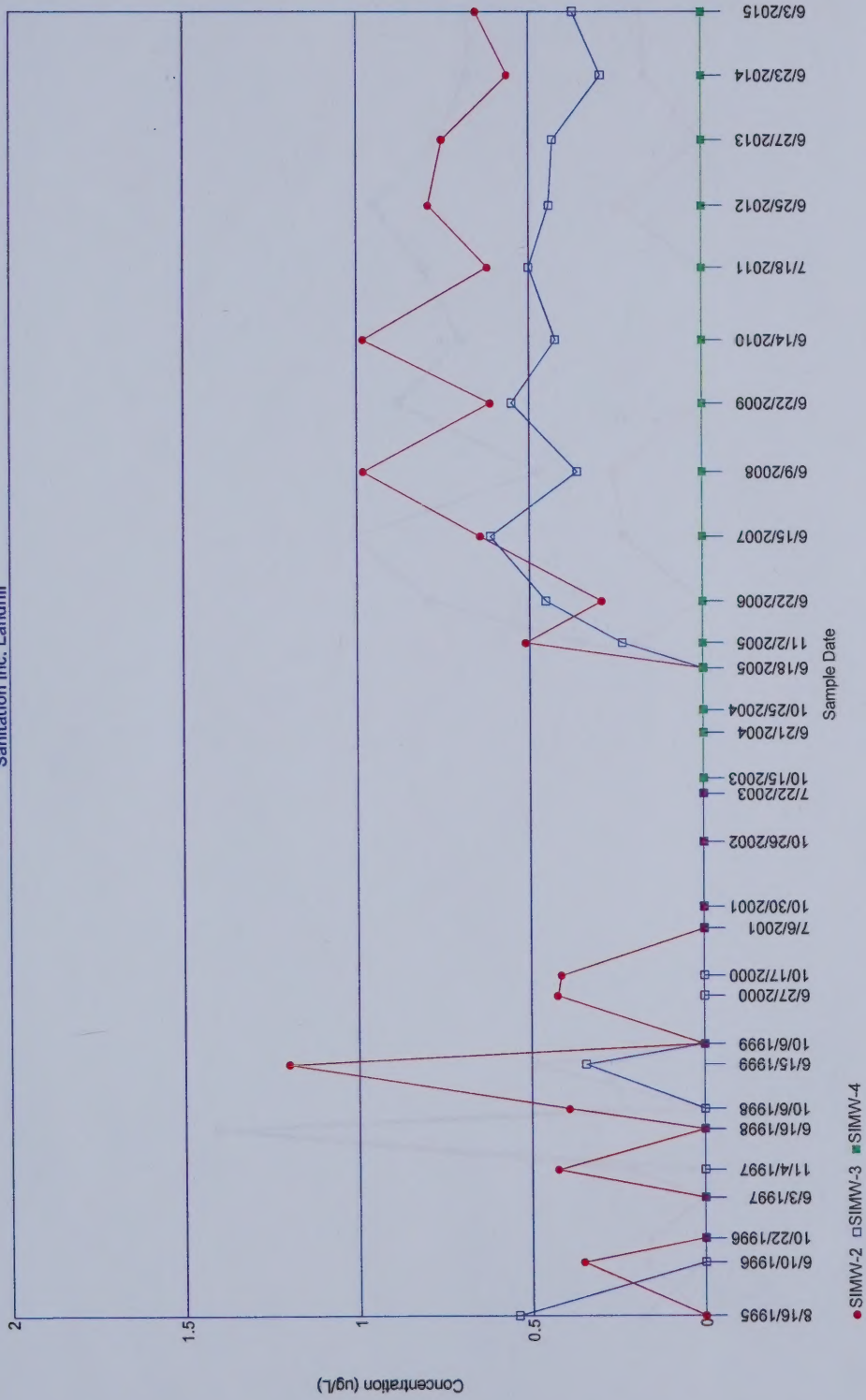
1,1-Dichloroethane
Sanitation Inc. Landfill



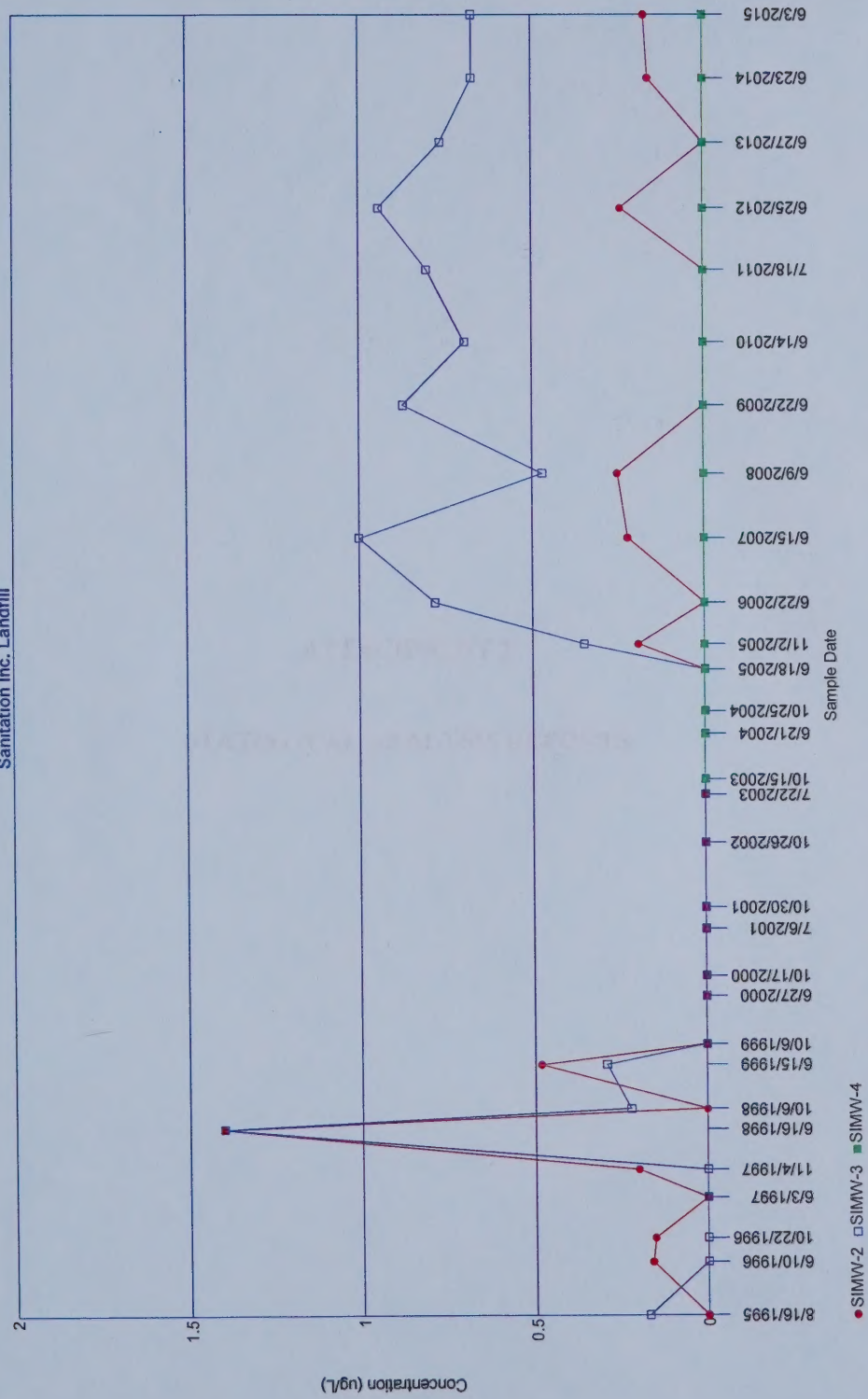
Tetrachloroethene
Sanitation Inc. Landfill



1,1,1-Trichloroethane
Sanitation Inc. Landfill



Trichlorofluoromethane
Sanitation Inc. Landfill



ATTACHMENT 2

STATISTICAL ANALYSIS REPORTS

Sanitation Inc. Landfill
License #291
June 2015 Groundwater Sampling Report

Attachment 2
Statistical Analysis Reports

September 2015



Hydrometrics, Inc.
Consulting Scientists and Engineers
3020 Bozeman
Helena, MT 59601
(406) 443-4150



ATTACHMENT 3

FIELD FORMS AND LABORATORY REPORT

pH-SC-Temp.

Instrument Calibration Form

Model Type: ENDURA-TIME Corp (03538)

Serial No: 020457

Project Name: Sanitation Inc LF11

Date: 6-3-15

Personnel: B. Dinnick

Weather: Cloudy

pH CALIBRATION

Time	Buffer	Temperature	Reading
1200	4	15.7	7.1 ok
	7		
	10		

Calibration Check: _____

TEMPERATURE CALIBRATION

Time	Sample	Temperature	Reading	Cell Factor
1200	1413	15.8	1421	ok

Notes: _____

GROUNDWATER MONITORING VOLUMES

Project Location		Date Sampled			
Sanitation Inc LF		6-3-15			
Well No.	Total Depth (Ft)	Depth to Water (Ft)	Difference (Ft)	1 Well Volume (Diff X .16)	3 Well Volume (X3)
2					
Typical	40	33	7	1.12	3.36
This Period		36.5 33.8	OK		
3					
Typical	37.5	29	8.5	1.36	4.1
This Period		32.2 28.8	OK		
4					
Typical	49.5	27	22.5	3.6	10
This Period		28.7	20.8	3.3	9.9
Typical					
This Period					
Typical					
This Period					

BARRY DANNEN CONSULTING LLC
Bellevue, Washington

Ground Water Monitoring Field Report

Project: San. Inc Well: 51MW-2
Personnel: B. Pamselheen
Date: 6-3-15 Time: 1200
Conditions: Windy - Cloudy
Static Water Level: 33.88 Total Depth Pugged: _____
Purge Method: Hand Bail Volume Pugged: _____

	Volume	Temperature	Conductivity	pH
1.	<u>3</u>	<u>1412</u>	<u>11.1</u>	<u>7.63</u>
2.	<u>4</u>	<u>1497</u>	<u>9.6</u>	<u>7.62</u>
3.	<u>4 1/2</u>	<u>1497</u>	<u>9.5</u>	<u>7.63</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

Pumping Level: _____ (Steady Pump)

Recovery (Interval or total):

at 0 at 0.10 at 7 SEC. at 40.7

Comments:

Ground Water Monitoring Field Report

Project: San Inc L7 Well: S1SW-3
Personnel: B. Damsekon
Date: 6-3-15 Time: 1400
Conditions: Windy- Cloudy
Static Water Level: 28.81 Total Depth Purgin: _____
Purge Method: hand bail Volume Purged: _____

	Volume	Temperature	Conductivity	ph
1.	<u>4</u>	<u>12.9.6</u>	<u>1322</u>	<u>7.65</u>
2.	<u>4 1/2</u>	<u>9.2</u>	<u>1349</u>	<u>7.68</u>
3.	<u>5</u>	<u>9.0</u>	<u>1332</u>	<u>7.67</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

Pumping Level: _____ (borehole pump)

Recovery (borehole or test):

h1 0 at 0.10 time 6 SEC depth 37.2

Comments:

S1P-1 = 33.38

BARRY DAMSCHEN CONSULTING LLC
Refined, Reusable

Ground Water Monitoring Field Report

Project: Sanitation Inc Well: 51MW-4
Personnel: B. Damschen 51MW-4D
Date: 6-3-15 Time: 1300
Conditions: Cloudy- calm- warm
Static Water Level: 28.70 Total Depth Purgers: _____
Purge Method: hand bail Volume Purgers: _____

	Volume	Temperature	Conductivity	pH
1.	<u>10</u>	<u>13.2</u>	<u>1940</u>	<u>7.62</u>
2.	<u>10 1/2</u>	<u>13.3</u>	<u>1941</u>	<u>7.60</u>
3.	<u>11</u>	<u>13.3</u>	<u>1947</u>	<u>7.61</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

Pumping Level: _____ (Pumping Pump)

Recovery (Inertial or better):

hl 0 at 0.10 after loser. depth 37.5

Comments:



Chain of Custody and Analytical Request Record

[illegible]

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.



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ANALYTICAL SUMMARY REPORT

June 17, 2015

Barry Damschen
5531 York Rd
Helena, MT 59602

Work Order: H15060100 Quote ID: H1110 - Landfill Parameters

Project Name: Sanitation Inc. Closed Landfill

Energy Laboratories Inc Helena MT received the following 5 samples for Barry Damschen on 6/4/2015 for analysis.

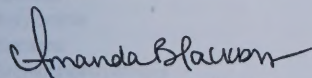
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H15060100-001	SIMW-2	06/03/15 12:00	06/04/15	Aqueous	Metals by ICP/ICPMS, Dissolved Cyanide, Total Manual Distillation Chemical Oxygen Demand Conductivity Mercury, Dissolved Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Preparation for COD testing Digestion, Mercury by CVAA 8260-Volatile Organic Comp, 40 CFR Part 258 App I
H15060100-002	SIMW-3	06/03/15 14:00	06/04/15	Aqueous	Same As Above
H15060100-003	SIMW-4	06/03/15 13:00	06/04/15	Aqueous	Same As Above
H15060100-004	SIMW-4D	06/03/15 13:00	06/04/15	Aqueous	Same As Above
H15060100-005	TB 4816	06/03/15 12:00	06/04/15	Trip Blank	8260-Volatile Organic Comp, 40 CFR Part 258 App I

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:


Assistant Branch Manager - Helena, MT

Digitally signed by
Amanda B. Blackburn
Date: 2015.06.17 11:25:23 -06:00



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CLIENT: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Work Order: H15060100

Report Date: 06/17/15

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-001
Client Sample ID: SIMW-2

Report Date: 06/17/15
Collection Date: 06/03/15 12:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	06/04/15 14:51 / abb
Conductivity @ 25 C	1540	umhos/cm		1		A2510 B	06/04/15 14:51 / abb
INORGANICS							
Cyanide, Total	ND	mg/L		0.003		Kelada-01	06/08/15 12:57 / eli-b38
Chloride	35	mg/L		1		E300.0	06/05/15 20:33 / SRW
Sulfate	150	mg/L		1		E300.0	06/05/15 20:33 / SRW
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	ND	mg/L		1		E410.4	06/05/15 11:20 / cmm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	2.56	mg/L	D	0.02		E353.2	06/08/15 10:26 / cmm
METALS, DISSOLVED							
Antimony	ND	mg/L		0.0005		SW6020	06/15/15 21:22 / dck
Arsenic	ND	mg/L		0.001		SW6020	06/15/15 21:22 / dck
Barium	0.041	mg/L		0.003		SW6020	06/15/15 21:22 / dck
Beryllium	ND	mg/L		0.0008		SW6020	06/15/15 21:22 / dck
Cadmium	0.00003	mg/L		0.00003		SW6020	06/15/15 21:22 / dck
Chromium	ND	mg/L		0.01		SW6020	06/15/15 21:22 / dck
Cobalt	ND	mg/L		0.01		SW6020	06/15/15 21:22 / dck
Copper	ND	mg/L		0.002		SW6020	06/15/15 21:22 / dck
Iron	ND	mg/L		0.02		SW6020	06/15/15 21:22 / dck
Lead	ND	mg/L		0.0003		SW6020	06/15/15 21:22 / dck
Mercury	ND	mg/L		5E-06		SW7470A	06/08/15 18:56 / rgk
Nickel	ND	mg/L		0.002		SW6020	06/15/15 21:22 / dck
Selenium	ND	mg/L		0.001		SW6020	06/15/15 21:22 / dck
Silver	ND	mg/L		0.0002		SW6020	06/15/15 21:22 / dck
Thallium	ND	mg/L		0.0002		SW6020	06/15/15 21:22 / dck
Vanadium	ND	mg/L		0.1		SW6020	06/15/15 21:22 / dck
Zinc	ND	mg/L		0.008		SW6020	06/15/15 21:22 / dck
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/04/15 22:26 / kjw
Acrylonitrile	ND	ug/L		3.0		SW8260B	06/04/15 22:26 / kjw
Benzene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Bromoform	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Bromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Chlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

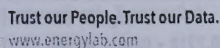
Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-001
Client Sample ID: SIMW-2

Report Date: 06/17/15
Collection Date: 06/03/15 12:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Chloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Chloroform	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Chloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Dibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
Dichlorodifluoromethane	0.44	ug/L	J	0.50		SW8260B	06/04/15 22:26 / kjw
1,1-Dichloroethane	0.24	ug/L	J	0.50		SW8260B	06/04/15 22:26 / kjw
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
cis-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 22:26 / kjw
trans-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 22:26 / kjw
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
2-Hexanone	ND	ug/L		20		SW8260B	06/04/15 22:26 / kjw
Iodomethane	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/04/15 22:26 / kjw
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/04/15 22:26 / kjw
Methylene chloride	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Styrene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Tetrachloroethene	0.14	ug/L	J	0.50		SW8260B	06/04/15 22:26 / kjw
Toluene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,1,1-Trichloroethane	0.65	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Trichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Trichlorofluoromethane	0.17	ug/L	J	0.50		SW8260B	06/04/15 22:26 / kjw
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
Vinyl chloride	ND	ug/L		0.40		SW8260B	06/04/15 22:26 / kjw
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/04/15 22:26 / kjw
o-Xylene	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Xylenes, Total	ND	ug/L		0.50		SW8260B	06/04/15 22:26 / kjw
Surr: 1,2-Dichloroethane-d4	95.0	%REC		70-130		SW8260B	06/04/15 22:26 / kjw
Surr: Dibromofluoromethane	92.0	%REC		77-126		SW8260B	06/04/15 22:26 / kjw
Surr: p-Bromofluorobenzene	88.0	%REC		76-127		SW8260B	06/04/15 22:26 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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Prepared by Helena, MT Branch

Report Date: 06/17/15
Collection Date: 06/03/15 12:00
DateReceived: 06/04/15
Matrx: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Surr: Toluene-d8	94.0	%REC		79-122		SW8260B	06/04/15 22:26 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-002
Client Sample ID: SIMW-3

Report Date: 06/17/15
Collection Date: 06/03/15 14:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.	H	0.1		A4500-H B	06/04/15 14:54 / abb
Conductivity @ 25 C	1360	umhos/cm		1		A2510 B	06/04/15 14:54 / abb
INORGANICS							
Cyanide, Total	ND	mg/L		0.003		Kelada-01	06/08/15 12:59 / eli-b38
Chloride	29	mg/L		1		E300.0	06/05/15 20:44 / SRW
Sulfate	173	mg/L		1		E300.0	06/05/15 20:44 / SRW
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	13	mg/L		1		E410.4	06/05/15 11:20 / cmm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	9.3	mg/L	D	0.1		E353.2	06/08/15 10:27 / cmm
METALS, DISSOLVED							
Antimony	ND	mg/L		0.0005		SW6020	06/15/15 21:44 / dck
Arsenic	ND	mg/L		0.001		SW6020	06/15/15 21:44 / dck
Barium	0.009	mg/L		0.003		SW6020	06/15/15 21:44 / dck
Beryllium	ND	mg/L		0.0008		SW6020	06/15/15 21:44 / dck
Cadmium	0.00004	mg/L		0.00003		SW6020	06/15/15 21:44 / dck
Chromium	ND	mg/L		0.01		SW6020	06/15/15 21:44 / dck
Cobalt	ND	mg/L		0.01		SW6020	06/15/15 21:44 / dck
Copper	ND	mg/L		0.002		SW6020	06/15/15 21:44 / dck
Iron	0.03	mg/L		0.02		SW6020	06/15/15 21:44 / dck
Lead	ND	mg/L		0.0003		SW6020	06/15/15 21:44 / dck
Mercury	ND	mg/L		5E-06		SW7470A	06/08/15 19:11 / rgk
Nickel	ND	mg/L		0.002		SW6020	06/15/15 21:44 / dck
Selenium	0.022	mg/L		0.001		SW6020	06/15/15 21:44 / dck
Silver	ND	mg/L		0.0002		SW6020	06/15/15 21:44 / dck
Thallium	ND	mg/L		0.0002		SW6020	06/15/15 21:44 / dck
Vanadium	ND	mg/L		0.1		SW6020	06/15/15 21:44 / dck
Zinc	ND	mg/L		0.008		SW6020	06/15/15 21:44 / dck
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/04/15 22:55 / kjw
Acrylonitrile	ND	ug/L		3.0		SW8260B	06/04/15 22:55 / kjw
Benzene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Bromoform	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Bromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Chlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-002
Client Sample ID: SIMW-3

Report Date: 06/17/15
Collection Date: 06/03/15 14:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Chloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Chloroform	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Chloromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Dibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
Dichlorodifluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
cis-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 22:55 / kjw
trans-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 22:55 / kjw
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
2-Hexanone	ND	ug/L		20		SW8260B	06/04/15 22:55 / kjw
Iodomethane	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/04/15 22:55 / kjw
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/04/15 22:55 / kjw
Methylene chloride	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Styrene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Tetrachloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Toluene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,1,1-Trichloroethane	0.37	ug/L	J	0.50		SW8260B	06/04/15 22:55 / kjw
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Trichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Trichlorofluoromethane	0.67	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
Vinyl chloride	ND	ug/L		0.40		SW8260B	06/04/15 22:55 / kjw
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/04/15 22:55 / kjw
o-Xylene	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Xylenes, Total	ND	ug/L		0.50		SW8260B	06/04/15 22:55 / kjw
Surr: 1,2-Dichloroethane-d4	88.0	%REC		70-130		SW8260B	06/04/15 22:55 / kjw
Surr: Dibromofluoromethane	94.0	%REC		77-126		SW8260B	06/04/15 22:55 / kjw
Surr: p-Bromofluorobenzene	91.0	%REC		76-127		SW8260B	06/04/15 22:55 / kjw

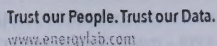
Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



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Prepared by Helena, MT Branch

Report Date: 06/17/15
Collection Date: 06/03/15 14:00
DateReceived: 06/04/15
Matrix: Aqueous

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-003
Client Sample ID: SIMW-4

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	06/04/15 14:56 / abb
Conductivity @ 25 C	2280	umhos/cm		1		A2510 B	06/04/15 14:56 / abb
INORGANICS							
Cyanide, Total	ND	mg/L		0.003		Kelada-01	06/08/15 13:02 / eli-b38
Chloride	145	mg/L		1		E300.0	06/05/15 20:55 / SRW
Sulfate	115	mg/L		1		E300.0	06/05/15 20:55 / SRW
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	52	mg/L		1		E410.4	06/05/15 11:20 / cmm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.01		E353.2	06/08/15 10:29 / cmm
METALS, DISSOLVED							
Antimony	ND	mg/L		0.0005		SW6020	06/15/15 21:47 / dck
Arsenic	ND	mg/L		0.001		SW6020	06/15/15 21:47 / dck
Barium	0.045	mg/L		0.003		SW6020	06/15/15 21:47 / dck
Beryllium	ND	mg/L		0.0008		SW6020	06/15/15 21:47 / dck
Cadmium	0.00034	mg/L		0.00003		SW6020	06/15/15 21:47 / dck
Chromium	ND	mg/L		0.01		SW6020	06/15/15 21:47 / dck
Cobalt	ND	mg/L		0.01		SW6020	06/15/15 21:47 / dck
Copper	0.003	mg/L		0.002		SW6020	06/15/15 21:47 / dck
Iron	0.03	mg/L		0.02		SW6020	06/15/15 21:47 / dck
Lead	0.0003	mg/L		0.0003		SW6020	06/15/15 21:47 / dck
Mercury	0.000015	mg/L		5E-06		SW7470A	06/08/15 19:15 / rgk
Nickel	0.035	mg/L		0.002		SW6020	06/15/15 21:47 / dck
Selenium	ND	mg/L		0.001		SW6020	06/15/15 21:47 / dck
Silver	ND	mg/L		0.0002		SW6020	06/15/15 21:47 / dck
Thallium	ND	mg/L		0.0002		SW6020	06/15/15 21:47 / dck
Vanadium	ND	mg/L		0.1		SW6020	06/15/15 21:47 / dck
Zinc	ND	mg/L		0.008		SW6020	06/15/15 21:47 / dck
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/04/15 23:23 / kjw
Acrylonitrile	ND	ug/L		3.0		SW8260B	06/04/15 23:23 / kjw
Benzene	0.29	ug/L	J	0.50		SW8260B	06/04/15 23:23 / kjw
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Bromoform	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Bromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Chlorobenzene	1.1	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-003
Client Sample ID: SIMW-4

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Chloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Chloroform	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Chloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Dibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
Dichlorodifluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
cis-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 23:23 / kjw
trans-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 23:23 / kjw
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
2-Hexanone	ND	ug/L		20		SW8260B	06/04/15 23:23 / kjw
Iodomethane	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/04/15 23:23 / kjw
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/04/15 23:23 / kjw
Methylene chloride	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Styrene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Tetrachloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Toluene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Trichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Trichlorofluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
Vinyl chloride	ND	ug/L		0.40		SW8260B	06/04/15 23:23 / kjw
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/04/15 23:23 / kjw
o-Xylene	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Xylenes, Total	ND	ug/L		0.50		SW8260B	06/04/15 23:23 / kjw
Surr: 1,2-Dichloroethane-d4	91.0	%REC		70-130		SW8260B	06/04/15 23:23 / kjw
Surr: Dibromofluoromethane	96.0	%REC		77-126		SW8260B	06/04/15 23:23 / kjw
Surr: p-Bromofluorobenzene	86.0	%REC		76-127		SW8260B	06/04/15 23:23 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-003
Client Sample ID: SIMW-4

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
DateReceived: 06/04/15
Matrix: Aqueous

[illegible]

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-004
Client Sample ID: SIMW-4D

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.	H	0.1		A4500-H B	06/04/15 14:58 / abb
Conductivity @ 25 C	2440	umhos/cm		1		A2510 B	06/04/15 14:58 / abb
INORGANICS							
Cyanide, Total	ND	mg/L		0.003		Kelada-01	06/08/15 13:05 / eli-b38
Chloride	158	mg/L		1		E300.0	06/05/15 21:06 / SRW
Sulfate	111	mg/L		1		E300.0	06/05/15 21:06 / SRW
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	58	mg/L		1		E410.4	06/05/15 11:20 / cmm
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.14	mg/L		0.01		E353.2	06/08/15 10:32 / cmm
METALS, DISSOLVED							
Antimony	ND	mg/L		0.0005		SW6020	06/15/15 21:51 / dck
Arsenic	ND	mg/L		0.001		SW6020	06/15/15 21:51 / dck
Barium	0.043	mg/L		0.003		SW6020	06/15/15 21:51 / dck
Beryllium	ND	mg/L		0.0008		SW6020	06/15/15 21:51 / dck
Cadmium	0.00034	mg/L		0.00003		SW6020	06/15/15 21:51 / dck
Chromium	ND	mg/L		0.01		SW6020	06/15/15 21:51 / dck
Cobalt	ND	mg/L		0.01		SW6020	06/15/15 21:51 / dck
Copper	ND	mg/L		0.002		SW6020	06/15/15 21:51 / dck
Iron	ND	mg/L		0.02		SW6020	06/15/15 21:51 / dck
Lead	0.0003	mg/L		0.0003		SW6020	06/15/15 21:51 / dck
Mercury	0.000011	mg/L		5E-06		SW7470A	06/08/15 19:18 / rgk
Nickel	0.035	mg/L		0.002		SW6020	06/15/15 21:51 / dck
Selenium	ND	mg/L		0.001		SW6020	06/15/15 21:51 / dck
Silver	ND	mg/L		0.0002		SW6020	06/15/15 21:51 / dck
Thallium	ND	mg/L		0.0002		SW6020	06/15/15 21:51 / dck
Vanadium	ND	mg/L		0.1		SW6020	06/15/15 21:51 / dck
Zinc	ND	mg/L		0.008		SW6020	06/15/15 21:51 / dck
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/04/15 23:52 / kjw
Acrylonitrile	ND	ug/L		3.0		SW8260B	06/04/15 23:52 / kjw
Benzene	0.29	ug/L	J	0.50		SW8260B	06/04/15 23:52 / kjw
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Bromoform	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Bromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Chlorobenzene	1.1	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

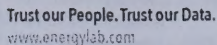
Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-004
Client Sample ID: SIMW-4D

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
Date Received: 06/04/15
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Chloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Chloroform	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Chloromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Dibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
Dichlorodifluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
cis-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 23:52 / kjw
trans-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 23:52 / kjw
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
2-Hexanone	ND	ug/L		20		SW8260B	06/04/15 23:52 / kjw
Iodomethane	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/04/15 23:52 / kjw
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/04/15 23:52 / kjw
Methylene chloride	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Styrene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Tetrachloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Toluene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Trichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Trichlorofluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
Vinyl chloride	ND	ug/L		0.40		SW8260B	06/04/15 23:52 / kjw
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/04/15 23:52 / kjw
o-Xylene	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Xylenes, Total	ND	ug/L		0.50		SW8260B	06/04/15 23:52 / kjw
Surr: 1,2-Dichloroethane-d4	92.0	%REC		70-130		SW8260B	06/04/15 23:52 / kjw
Surr: Dibromofluoromethane	94.0	%REC		77-126		SW8260B	06/04/15 23:52 / kjw
Surr: p-Bromofluorobenzene	86.0	%REC		76-127		SW8260B	06/04/15 23:52 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-004
Client Sample ID: SIMW-4D

Report Date: 06/17/15
Collection Date: 06/03/15 13:00
DateReceived: 06/04/15
Matrix: Aqueous

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

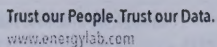
Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill
Lab ID: H15060100-005
Client Sample ID: TB 4816

Report Date: 06/17/15
Collection Date: 06/03/15 12:00
Date Received: 06/04/15
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/04/15 17:39 / kjw
Acrylonitrile	ND	ug/L		3.0		SW8260B	06/04/15 17:39 / kjw
Benzene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Bromoform	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Bromomethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/04/15 17:39 / kjw
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Chlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Chloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Chloroform	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Chloromethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/04/15 17:39 / kjw
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Dibromomethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/04/15 17:39 / kjw
Dichlorodifluoromethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
cis-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 17:39 / kjw
trans-1,3-Dichloropropene	ND	ug/L		0.30		SW8260B	06/04/15 17:39 / kjw
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
2-Hexanone	ND	ug/L		20		SW8260B	06/04/15 17:39 / kjw
Iodomethane	ND	ug/L		1.0		SW8260B	06/04/15 17:39 / kjw
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/04/15 17:39 / kjw
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/04/15 17:39 / kjw
Methylene chloride	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Styrene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Tetrachloroethene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Toluene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw
Trichloroethene	ND	ug/L		0.50		SW8260B	06/04/15 17:39 / kjw

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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Prepared by Helena, MT Branch

Report Date: 06/17/15
Collection Date: 06/03/15 12:00
DateReceived: 06/04/15
Matrix: Trip Blank

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B										Batch: R106596
Lab ID: SC 150	Initial Calibration Verification Standard									
Conductivity @ 25 C		147	umhos/cm	1.0	98	90	110			06/04/15 11:11
Lab ID: SC 5000										06/04/15 11:13
Initial Calibration Verification Standard										
Conductivity @ 25 C		4900	umhos/cm	1.0	99	90	110			
Lab ID: SC 20000										06/04/15 11:16
Initial Calibration Verification Standard										
Conductivity @ 25 C		20000	umhos/cm	1.0	98	90	110			
Lab ID: SC 2ND 1000										06/04/15 11:18
Laboratory Control Sample										
Conductivity @ 25 C		1000	umhos/cm	1.0	100	90	110			
Lab ID: H15060070-001CDUP										06/04/15 11:32
Sample Duplicate										
Conductivity @ 25 C		1310	umhos/cm	1.0				0.3	10	
Lab ID: H15060094-006ADUP										06/04/15 14:46
Sample Duplicate										
Conductivity @ 25 C		434	umhos/cm	1.0				0.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B										Analytical Run: PHSC_101-H_150604A
Lab ID: pH 7		Initial Calibration Verification Standard								
pH		7.0	s.u.	0.1	100	98	102			06/04/15 11:08
Method: A4500-H B										Batch: R106596
Lab ID: H15060070-001CDUP		Sample Duplicate					Run: PHSC_101-H_150604A			06/04/15 11:32
pH		7.2	s.u.	0.1				0.3	3	
Lab ID: H15060094-006ADUP		Sample Duplicate					Run: PHSC_101-H_150604A			06/04/15 14:46
pH		7.1	s.u.	0.1				0.1	3	

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1										Analytical Run: HGCV202-H_150608A
Lab ID: ICV		Initial Calibration Verification Standard								06/08/15 10:26
Mercury		0.00020	mg/L	0.00010	98	90	110			
Lab ID: ICV		Initial Calibration Verification Standard								06/08/15 14:33
Mercury		0.00020	mg/L	0.00010	101	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill

Report Date: 06/17/15
Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Analytical Run: IC102-H_150605A
Lab ID: ICV	2	Initial Calibration Verification Standard								06/05/15 16:06
Chloride		103	mg/L	1.0	103	90	110			
Sulfate		412	mg/L	1.0	103	90	110			
Lab ID: CCV060515-2	2	Continuing Calibration Verification Standard								06/05/15 20:11
Chloride		102	mg/L	1.0	102	90	110			
Sulfate		414	mg/L	1.0	104	90	110			
Method: E300.0										Batch: R106675
Lab ID: ICB	2	Method Blank				Run: IC102-H_150605A				06/05/15 16:18
Chloride		0.10	mg/L	0.010						
Sulfate		0.2	mg/L	0.009						
Lab ID: LFB	2	Laboratory Fortified Blank				Run: IC102-H_150605A				06/05/15 16:29
Chloride		48.0	mg/L	1.0	96	90	110			
Sulfate		195	mg/L	1.0	98	90	110			
Lab ID: H15060103-001AMS	2	Sample Matrix Spike				Run: IC102-H_150605A				06/05/15 22:02
Chloride		47.0	mg/L	1.0	94	90	110			
Sulfate		194	mg/L	1.0	97	90	110			
Lab ID: H15060103-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_150605A				06/05/15 22:13
Chloride		47.0	mg/L	1.0	94	90	110	0.1	20	
Sulfate		195	mg/L	1.0	97	90	110	0.5	20	

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Analytical Run: FIA203-HE_150608A
Lab ID: ICV		Initial Calibration Verification Standard								06/08/15 10:19
Nitrogen, Nitrate+Nitrite as N		0.991	mg/L	0.010	99	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								06/08/15 10:21
Nitrogen, Nitrate+Nitrite as N		0.494	mg/L	0.010	99	90	110			
Lab ID: ICB		Initial Calibration Blank, Instrument Blank								06/08/15 10:23
Nitrogen, Nitrate+Nitrite as N		-0.00724	mg/L	0.010		0	0			
Method: E353.2										Batch: R106680
Lab ID: LFB		Laboratory Fortified Blank								06/08/15 10:20
Nitrogen, Nitrate+Nitrite as N		1.02	mg/L	0.011	102	90	110			
Lab ID: MBLK		Method Blank								06/08/15 10:25
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.003						
Lab ID: H15060100-003BMS		Sample Matrix Spike								06/08/15 10:30
Nitrogen, Nitrate+Nitrite as N		1.23	mg/L	0.011	104	90	110			
Lab ID: H15060100-003BMSD		Sample Matrix Spike Duplicate								06/08/15 10:31
Nitrogen, Nitrate+Nitrite as N		1.24	mg/L	0.011	104	90	110	0.6	20	

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E410.4										Analytical Run: SPECTRO_150605A
Lab ID: CCV2_150605A	Continuing Calibration Verification Standard									06/05/15 11:20
Oxygen Demand, Chemical (COD)		52	mg/L	1	104	90	110			
Method: E410.4										Batch: 29191
Lab ID: LCS1_150605A	Laboratory Control Sample									Run: SPECTRO_150605A 06/05/15 11:20
Oxygen Demand, Chemical (COD)		1400	mg/L	5	95	90	110			
Lab ID: MBLK1_150605A	Method Blank									Run: SPECTRO_150605A 06/05/15 11:20
Oxygen Demand, Chemical (COD)		ND	mg/L	1						
Lab ID: H15060100-001BMS	Sample Matrix Spike									Run: SPECTRO_150605A 06/05/15 11:20
Oxygen Demand, Chemical (COD)		57	mg/L	1	95	90	110			
Lab ID: H15060100-001BMSD	Sample Matrix Spike Duplicate									Run: SPECTRO_150605A 06/05/15 11:20
Oxygen Demand, Chemical (COD)		54	mg/L	1	90	90	110	5.7	20	

Qualifiers:

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ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada-01										Analytical Run: SUB-B244141
Lab ID: ICB Initial Calibration Verification Standard										06/08/15 09:37
Cyanide, Total		0.103	mg/L	0.0050	103	90	110			
Method: Kelada-01										Batch: B_R244141
Lab ID: ICB Method Blank										Run: SUB-B244141 06/08/15 09:40
Cyanide, Total		ND	mg/L	0.001						
Lab ID: LFB Laboratory Fortified Blank										Run: SUB-B244141 06/08/15 09:42
Cyanide, Total		0.106	mg/L	0.0050	106	90	110			
Lab ID: LCS1-K4Fe(CN)6 Laboratory Control Sample										Run: SUB-B244141 06/08/15 09:45
Cyanide, Total		0.182	mg/L	0.0050	91	90	110			
Lab ID: B15060594-006FMS Sample Matrix Spike										Run: SUB-B244141 06/08/15 12:51
Cyanide, Total		0.0728	mg/L	0.0050	73	90	110			S
Lab ID: B15060594-006FMSD Sample Matrix Spike Duplicate										Run: SUB-B244141 06/08/15 12:54
Cyanide, Total		0.0766	mg/L	0.0050	77	90	110	5.1	10	S
Lab ID: B15060612-003CMS Sample Matrix Spike										Run: SUB-B244141 06/08/15 13:35
Cyanide, Total		0.122	mg/L	0.0050	105	90	110			
Lab ID: B15060612-003CMSD Sample Matrix Spike Duplicate										Run: SUB-B244141 06/08/15 13:37
Cyanide, Total		0.125	mg/L	0.0050	108	90	110	2.5	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen
Project: Sanitation Inc. Closed Landfill

Report Date: 06/17/15
Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	SW6020							Analytical Run: ICPMS204-B_150615B		
Lab ID:	ICV STD	16 Initial Calibration Verification Standard							06/15/15 19:39	
Antimony		0.0604	mg/L	0.0010	101	90	110			
Arsenic		0.0615	mg/L	0.0010	102	90	110			
Barium		0.0602	mg/L	0.0010	100	90	110			
Beryllium		0.0312	mg/L	0.0010	104	90	110			
Cadmium		0.0313	mg/L	0.0010	104	90	110			
Chromium		0.0618	mg/L	0.0010	103	90	110			
Cobalt		0.0619	mg/L	0.0010	103	90	110			
Copper		0.0628	mg/L	0.0010	105	90	110			
Iron		0.324	mg/L	0.0010	108	90	110			
Lead		0.0593	mg/L	0.0010	99	90	110			
Nickel		0.0626	mg/L	0.0010	104	90	110			
Selenium		0.0613	mg/L	0.0010	102	90	110			
Silver		0.0290	mg/L	0.0010	97	90	110			
Thallium		0.0593	mg/L	0.0010	99	90	110			
Vanadium		0.0606	mg/L	0.0010	101	90	110			
Zinc		0.0637	mg/L	0.0010	106	90	110			

Method:	SW6020							Batch: R106880
Lab ID:	H15060100-001DMS	16 Sample Matrix Spike			Run: ICPMS204-B_150615B			06/15/15 21:28
Antimony		0.0501	mg/L	0.0010	100	75	125	
Arsenic		0.0546	mg/L	0.0010	109	75	125	
Barium		0.0912	mg/L	0.050	101	75	125	
Beryllium		0.0495	mg/L	0.0010	99	75	125	
Cadmium		0.0505	mg/L	0.0010	101	75	125	
Chromium		0.0525	mg/L	0.0050	105	75	125	
Cobalt		0.0513	mg/L	0.0050	103	75	125	
Copper		0.0505	mg/L	0.0050	99	75	125	
Iron		0.180	mg/L	0.020	109	75	125	
Lead		0.0513	mg/L	0.0010	102	75	125	
Nickel		0.0513	mg/L	0.0050	101	75	125	
Selenium		0.0551	mg/L	0.0010	109	75	125	
Silver		0.0193	mg/L	0.0010	97	75	125	
Thallium		0.0538	mg/L	0.00050	108	75	125	
Vanadium		0.0531	mg/L	0.010	106	75	125	
Zinc		0.0564	mg/L	0.010	97	75	125	

Lab ID: H15060100-001DMSD	16 Sample Matrix Spike Duplicate									Run: ICPMS204-B_150615B
										06/15/15 21:31
Antimony		0.0508	mg/L	0.0010	102	75	125	1.4	20	
Arsenic		0.0551	mg/L	0.0010	110	75	125	0.9	20	
Barium		0.0908	mg/L	0.050	101	75	125	0.4	20	
Beryllium		0.0493	mg/L	0.0010	99	75	125	0.3	20	
Cadmium		0.0502	mg/L	0.0010	100	75	125	0.6	20	
Chromium		0.0527	mg/L	0.0050	105	75	125	0.4	20	
Cobalt		0.0514	mg/L	0.0050	103	75	125	0.2	20	

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: R106880
Lab ID: H15060100-001DMSD	16	Sample Matrix Spike Duplicate				Run: ICPMS204-B_150615B			06/15/15 21:31	
Copper		0.0502	mg/L	0.0050	99	75	125	0.6	20	
Iron		0.174	mg/L	0.020	105	75	125	3.7	20	
Lead		0.0514	mg/L	0.0010	103	75	125	0.4	20	
Nickel		0.0513	mg/L	0.0050	101	75	125	0.0	20	
Selenium		0.0544	mg/L	0.0010	108	75	125	1.2	20	
Silver		0.0196	mg/L	0.0010	98	75	125	1.3	20	
Thallium		0.0544	mg/L	0.00050	109	75	125	1.1	20	
Vanadium		0.0533	mg/L	0.010	106	75	125	0.3	20	
Zinc		0.0551	mg/L	0.010	94	75	125	2.3	20	
Lab ID: ICB	16	Method Blank				Run: ICPMS204-B_150615B			06/15/15 11:01	
Antimony		7E-05	mg/L	4E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	8E-05						
Beryllium		ND	mg/L	0.0002						
Cadmium		ND	mg/L	2E-05						
Chromium		ND	mg/L	3E-05						
Cobalt		ND	mg/L	3E-05						
Copper		ND	mg/L	6E-05						
Iron		0.001	mg/L	0.0008						
Lead		ND	mg/L	3E-05						
Nickel		ND	mg/L	3E-05						
Selenium		ND	mg/L	4E-05						
Silver		3E-05	mg/L	3E-05						
Thallium		ND	mg/L	1E-05						
Vanadium		ND	mg/L	3E-05						
Zinc		0.0003	mg/L	0.0001						
Lab ID: LFB	16	Laboratory Fortified Blank				Run: ICPMS204-B_150615B			06/15/15 11:05	
Antimony		0.0501	mg/L	0.0010	100	80	120			
Arsenic		0.0519	mg/L	0.0010	104	80	120			
Barium		0.0525	mg/L	0.0010	105	80	120			
Beryllium		0.0543	mg/L	0.0010	109	80	120			
Cadmium		0.0535	mg/L	0.0010	107	80	120			
Chromium		0.0518	mg/L	0.0010	104	80	120			
Cobalt		0.0525	mg/L	0.0010	105	80	120			
Copper		0.0531	mg/L	0.0010	106	80	120			
Iron		0.171	mg/L	0.0010	113	80	120			
Lead		0.0519	mg/L	0.0010	104	80	120			
Nickel		0.0534	mg/L	0.0010	107	80	120			
Selenium		0.0552	mg/L	0.0010	110	80	120			
Silver		0.0211	mg/L	0.0010	105	80	120			
Thallium		0.0537	mg/L	0.0010	107	80	120			
Vanadium		0.0498	mg/L	0.0010	100	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: R106880
Lab ID: LFB	16 Laboratory Fortified Blank					Run: ICPMS204-B_150615B				06/15/15 11:05
Zinc	10	0.0572	mg/L	0.0010	114	80	120			
As	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cd	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Co	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cr	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cu	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Fe	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Mn	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Ni	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Pb	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Sb	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Se	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Si	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Te	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Ti	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
V	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
W	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Zn	10	0.0572	mg/L	0.0010	114	80	120			
As	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cd	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Co	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cr	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Cu	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Fe	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Mn	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Ni	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Pb	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Sb	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Se	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Si	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Te	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
Ti	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
V	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			
W	10	0.0000	mg/L	0.0000	100	0.0000	0.0000			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7470A										Batch: 29187
Lab ID: MB-29187		Method Blank					Run: HGCV202-H_150608A			06/08/15 18:49
Mercury		2E-06	mg/L	1E-06						
Lab ID: LCS-29187		Laboratory Control Sample					Run: HGCV202-H_150608A			06/08/15 18:53
Mercury		0.00015	mg/L	0.00010	97	90	110			
Lab ID: H15060100-001DMS		Sample Matrix Spike					Run: HGCV202-H_150608A			06/08/15 19:00
Mercury		0.00014	mg/L	0.00010	93	85	115			
Lab ID: H15060100-001DMSD		Sample Matrix Spike Duplicate					Run: HGCV202-H_150608A			06/08/15 19:04
Mercury		0.00015	mg/L	0.00010	97	85	115	4.8	20	

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Analytical Run: R106628	
Lab ID: 060415_CC_V_2	53 Continuing Calibration Verification Standard									06/04/15 15:15
trans-1,4-Dichloro-2-butene		4.20	ug/L	1.0	84	70	130			
Acetone		40.0	ug/L	20	80	70	130			
Acrylonitrile		40.4	ug/L	20	81	70	130			
Benzene		5.24	ug/L	1.0	105	70	130			
Bromochloromethane		4.28	ug/L	1.0	86	70	130			
Bromodichloromethane		5.52	ug/L	1.0	110	70	130			
Bromoform		4.40	ug/L	1.0	88	70	130			
Bromomethane		5.24	ug/L	1.0	105	70	130			
Carbon disulfide		4.96	ug/L	1.0	99	70	130			
Carbon tetrachloride		5.08	ug/L	1.0	102	70	130			
Chlorobenzene		5.64	ug/L	1.0	113	70	130			
Chlorodibromomethane		4.80	ug/L	1.0	96	70	130			
Chloroethane		5.16	ug/L	1.0	103	70	130			
Chloroform		4.40	ug/L	1.0	88	80	120			
Chloromethane		3.67	ug/L	1.0	73	70	130			
1,2-Dibromo-3-chloropropane		5.00	ug/L	1.0	100	70	130			
1,2-Dibromoethane		4.28	ug/L	1.0	86	70	130			
Dibromomethane		5.28	ug/L	1.0	106	70	130			
1,2-Dichlorobenzene		5.00	ug/L	1.0	100	70	130			
1,4-Dichlorobenzene		5.00	ug/L	1.0	100	70	130			
Dichlorodifluoromethane		4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethane		5.00	ug/L	1.0	100	70	130			
1,2-Dichloroethane		4.36	ug/L	1.0	87	70	130			
1,1-Dichloroethene		5.52	ug/L	1.0	110	80	120			
cis-1,2-Dichloroethene		5.00	ug/L	1.0	100	70	130			
trans-1,2-Dichloroethene		5.32	ug/L	1.0	106	70	130			
1,2-Dichloropropane		5.84	ug/L	1.0	117	80	120			
cis-1,3-Dichloropropene		5.72	ug/L	1.0	114	70	130			
trans-1,3-Dichloropropene		5.44	ug/L	1.0	109	70	130			
Ethylbenzene		5.64	ug/L	1.0	113	80	120			
2-Hexanone		48.0	ug/L	20	96	70	130			
Iodomethane		5.44	ug/L	1.0	109	70	130			
Methyl ethyl ketone		45.2	ug/L	20	90	70	130			
Methyl isobutyl ketone		44.8	ug/L	20	90	70	130			
Methylene chloride		4.00	ug/L	1.0	80	70	130			
Styrene		6.12	ug/L	1.0	122	70	130			
1,1,1,2-Tetrachloroethane		5.60	ug/L	1.0	112	70	130			
1,1,2,2-Tetrachloroethane		4.08	ug/L	1.0	82	70	130			
Tetrachloroethene		6.16	ug/L	1.0	123	70	130			
Toluene		5.76	ug/L	1.0	115	80	120			
1,1,1-Trichloroethane		5.40	ug/L	1.0	108	70	130			
1,1,2-Trichloroethane		5.76	ug/L	1.0	115	70	130			
Trichloroethene		5.68	ug/L	1.0	114	70	130			
Trichlorofluoromethane		4.24	ug/L	1.0	85	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Analytical Run: R106628	
Lab ID: 060415_CCV_2	53 Continuing Calibration Verification Standard								06/04/15 15:15	
1,2,3-Trichloropropane		5.08	ug/L	1.0	102	70	130			
Vinyl acetate		3.69	ug/L	1.0	74	70	130			
Vinyl chloride		4.76	ug/L	1.0	95	80	120			
m+p-Xylenes		12.1	ug/L	1.0	121	70	130			
o-Xylene		6.28	ug/L	1.0	126	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	89	69	131			
Surr: Dibromofluoromethane				1.0	89	70	125			
Surr: p-Bromofluorobenzene				1.0	89	76	123			
Surr: Toluene-d8				1.0	102	80	119			

Method: SW8260B									Batch: R106628	
Lab ID: 060415_LCS_3	53 Laboratory Control Sample								Run: 1SATURN_150604A	
trans-1,4-Dichloro-2-butene		4.04	ug/L	1.0	81	67	132			06/04/15 15:57
Acetone		39.0	ug/L	20	78	55	144			
Acrylonitrile		40.0	ug/L	20	80	63	134			
Benzene		5.00	ug/L	1.0	100	69	129			
Bromochloromethane		3.98	ug/L	1.0	80	72	125			
Bromodichloromethane		5.00	ug/L	1.0	100	71	122			
Bromoform		3.87	ug/L	1.0	77	65	130			
Bromomethane		5.56	ug/L	1.0	111	60	136			
Carbon disulfide		4.28	ug/L	1.0	86	71	135			
Carbon tetrachloride		4.76	ug/L	1.0	95	77	121			
Chlorobenzene		5.40	ug/L	1.0	108	78	120			
Chlorodibromomethane		4.36	ug/L	1.0	87	70	122			
Chloroethane		4.76	ug/L	1.0	95	62	135			
Chloroform		4.28	ug/L	1.0	86	71	121			
Chloromethane		4.00	ug/L	1.0	80	66	139			
1,2-Dibromo-3-chloropropane		4.24	ug/L	1.0	85	59	130			
1,2-Dibromoethane		3.85	ug/L	1.0	77	60	137			
Dibromomethane		5.04	ug/L	1.0	101	69	122			
1,2-Dichlorobenzene		4.48	ug/L	1.0	90	74	122			
1,4-Dichlorobenzene		4.40	ug/L	1.0	88	75	122			
Dichlorodifluoromethane		4.64	ug/L	1.0	93	57	144			
1,1-Dichloroethane		4.64	ug/L	1.0	93	76	125			
1,2-Dichloroethane		4.00	ug/L	1.0	80	69	131			
1,1-Dichloroethene		5.16	ug/L	1.0	103	67	129			
cis-1,2-Dichloroethene		4.76	ug/L	1.0	95	75	122			
trans-1,2-Dichloroethene		4.92	ug/L	1.0	98	75	124			
1,2-Dichloropropane		5.40	ug/L	1.0	108	75	127			
cis-1,3-Dichloropropene		5.28	ug/L	1.0	106	73	124			
trans-1,3-Dichloropropene		4.48	ug/L	1.0	90	72	127			
Ethylbenzene		5.52	ug/L	1.0	110	74	125			
2-Hexanone		50.4	ug/L	20	101	70	128			
Iodomethane		4.20	ug/L	1.0	84	52	130			

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R106628
Lab ID: 060415_LCS_3	53	Laboratory Control Sample				Run: 1SATURN_150604A			06/04/15 15:57	
Methyl ethyl ketone		40.0	ug/L	20	80	56	141			
Methyl isobutyl ketone		48.8	ug/L	20	98	71	121			
Methylene chloride		3.80	ug/L	1.0	76	61	125			
Styrene		5.64	ug/L	1.0	113	75	120			
1,1,1,2-Tetrachloroethane		5.36	ug/L	1.0	107	76	122			
1,1,2,2-Tetrachloroethane		3.94	ug/L	1.0	79	67	124			
Tetrachloroethene		5.56	ug/L	1.0	111	75	126			
Toluene		5.64	ug/L	1.0	113	73	122			
1,1,1-Trichloroethane		5.12	ug/L	1.0	102	76	124			
1,1,2-Trichloroethane		5.12	ug/L	1.0	102	72	125			
Trichloroethene		5.24	ug/L	1.0	105	72	126			
Trichlorofluoromethane		4.56	ug/L	1.0	91	73	131			
1,2,3-Trichloropropane		4.04	ug/L	1.0	81	58	142			
Vinyl acetate		4.64	ug/L	1.0	93	47	154			
Vinyl chloride		4.80	ug/L	1.0	96	69	129			
m+p-Xylenes		11.5	ug/L	1.0	115	72	124			
o-Xylene		6.16	ug/L	1.0	123	74	123			
Surr: 1,2-Dichloroethane-d4				1.0	91	69	131			
Surr: Dibromofluoromethane				1.0	90	70	125			
Surr: p-Bromofluorobenzene				1.0	87	76	123			
Surr: Toluene-d8				1.0	103	80	119			
Lab ID: 060415_MBLK_5	53	Method Blank				Run: 1SATURN_150604A			06/04/15 17:10	
trans-1,4-Dichloro-2-butene		ND	ug/L	1.0						
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R106628
Lab ID: 060415_MBLK_5	53	Method Blank				Run: 1SATURN_150604A				06/04/15 17:10
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	90	69	131			
Surr: Dibromofluoromethane				1.0	93	70	125			
Surr: p-Bromofluorobenzene				1.0	92	76	123			
Surr: Toluene-d8				1.0	97	80	119			
Lab ID: H15060101-002EMS	53	Sample Matrix Spike				Run: 1SATURN_150604A				06/04/15 19:05
trans-1,4-Dichloro-2-butene		8.16	ug/L	1.0	82	67	132			
Acetone		78.6	ug/L	40	79	55	144			
Acrylonitrile		84.8	ug/L	40	85	63	134			
Benzene		10.2	ug/L	1.0	102	69	129			
Bromochloromethane		7.83	ug/L	1.0	78	72	125			
Bromodichloromethane		9.92	ug/L	1.0	99	71	122			
Bromoform		8.00	ug/L	1.0	80	65	130			
Bromomethane		11.0	ug/L	1.0	110	60	136			
Carbon disulfide		7.90	ug/L	1.0	79	71	135			
Carbon tetrachloride		9.36	ug/L	1.0	94	77	121			

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Batch: R106628								
Lab ID: H15060101-002EMS	53	Sample Matrix Spike		Run: 1SATURN_150604A			06/04/15 19:05			
Chlorobenzene		10.7	ug/L	1.0	107	78	120			
Chlorodibromomethane		9.28	ug/L	1.0	93	70	122			
Chloroethane		9.92	ug/L	1.0	99	62	135			
Chloroform		8.48	ug/L	1.0	85	71	121			
Chloromethane		7.68	ug/L	1.0	77	66	139			
1,2-Dibromo-3-chloropropane		8.56	ug/L	1.0	86	59	130			
1,2-Dibromoethane		8.32	ug/L	1.0	83	60	137			
Dibromomethane		9.60	ug/L	1.0	96	69	122			
1,2-Dichlorobenzene		9.12	ug/L	1.0	91	74	122			
1,4-Dichlorobenzene		8.48	ug/L	1.0	85	75	122			
Dichlorodifluoromethane		9.44	ug/L	1.0	94	57	144			
1,1-Dichloroethane		9.84	ug/L	1.0	98	76	125			
1,2-Dichloroethane		8.64	ug/L	1.0	86	69	131			
1,1-Dichloroethene		10.6	ug/L	1.0	106	67	129			
cis-1,2-Dichloroethene		9.68	ug/L	1.0	97	75	122			
trans-1,2-Dichloroethene		9.92	ug/L	1.0	99	75	124			
1,2-Dichloropropane		11.3	ug/L	1.0	113	75	127			
cis-1,3-Dichloropropene		10.2	ug/L	1.0	102	73	124			
trans-1,3-Dichloropropene		9.44	ug/L	1.0	94	72	127			
Ethylbenzene		10.5	ug/L	1.0	105	74	125			
2-Hexanone		96.8	ug/L	40	97	70	128			
Iodomethane		8.24	ug/L	1.0	82	52	130			
Methyl ethyl ketone		83.2	ug/L	40	83	56	141			
Methyl isobutyl ketone		91.2	ug/L	40	91	71	121			
Methylene chloride		7.65	ug/L	1.0	76	61	125			
Styrene		10.7	ug/L	1.0	107	75	120			
1,1,1,2-Tetrachloroethane		10.6	ug/L	1.0	106	76	122			
1,1,2,2-Tetrachloroethane		7.48	ug/L	1.0	75	67	124			
Tetrachloroethene		10.6	ug/L	1.0	106	75	126			
Toluene		10.7	ug/L	1.0	107	73	122			
1,1,1-Trichloroethane		10.1	ug/L	1.0	101	76	124			
1,1,2-Trichloroethane		10.4	ug/L	1.0	104	72	125			
Trichloroethene		10.5	ug/L	1.0	105	72	126			
Trichlorofluoromethane		9.36	ug/L	1.0	94	73	131			
1,2,3-Trichloropropane		8.88	ug/L	1.0	89	58	142			
Vinyl acetate		9.76	ug/L	1.0	98	47	154			
Vinyl chloride		9.52	ug/L	1.0	95	69	129			
m+p-Xylenes		22.2	ug/L	1.0	111	72	124			
o-Xylene		12.3	ug/L	1.0	123	74	123			
Surr: 1,2-Dichloroethane-d4				2.0	92	69	131			
Surr: Dibromofluoromethane				2.0	86	70	125			
Surr: p-Bromofluorobenzene				2.0	88	76	123			
Surr: Toluene-d8				2.0	100	80	119			

- 2-Chloroethyl vinyl ether will degrade in acid-preserved samples.

Qualifiers:

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ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Barry Damschen

Report Date: 06/17/15

Project: Sanitation Inc. Closed Landfill

Work Order: H15060100

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R106628
Lab ID: H15060101-002EMSD	53	Sample Matrix Spike Duplicate			Run: 1SATURN_150604A				06/04/15 19:34	
trans-1,4-Dichloro-2-butene		8.32	ug/L	1.0	83	67	132	1.9	20	
Acetone		76.6	ug/L	40	77	55	144	2.6	20	
Acrylonitrile		84.8	ug/L	40	85	63	134	0.0	20	
Benzene		9.76	ug/L	1.0	98	69	129	4.0	20	
Bromochloromethane		7.84	ug/L	1.0	78	72	125	0.1	20	
Bromodichloromethane		10.0	ug/L	1.0	100	71	122	0.8	20	
Bromoform		7.85	ug/L	1.0	78	65	130	1.9	20	
Bromomethane		11.4	ug/L	1.0	114	60	136	3.6	20	
Carbon disulfide		7.85	ug/L	1.0	78	71	135	0.6	20	
Carbon tetrachloride		9.20	ug/L	1.0	92	77	121	1.7	20	
Chlorobenzene		10.8	ug/L	1.0	108	78	120	0.7	20	
Chlorodibromomethane		9.12	ug/L	1.0	91	70	122	1.7	20	
Chloroethane		9.92	ug/L	1.0	99	62	135	0.0	20	
Chloroform		8.64	ug/L	1.0	86	71	121	1.9	20	
Chloromethane		7.65	ug/L	1.0	76	66	139	0.4	20	
1,2-Dibromo-3-chloropropane		9.20	ug/L	1.0	92	59	130	7.2	20	
1,2-Dibromoethane		8.72	ug/L	1.0	87	60	137	4.7	20	
Dibromomethane		9.76	ug/L	1.0	98	69	122	1.7	20	
1,2-Dichlorobenzene		9.68	ug/L	1.0	97	74	122	6.0	20	
1,4-Dichlorobenzene		8.88	ug/L	1.0	89	75	122	4.6	20	
Dichlorodifluoromethane		9.04	ug/L	1.0	90	57	144	4.3	20	
1,1-Dichloroethane		9.20	ug/L	1.0	92	76	125	6.7	20	
1,2-Dichloroethane		7.90	ug/L	1.0	79	69	131	9.0	20	
1,1-Dichloroethene		10.4	ug/L	1.0	104	67	129	2.3	20	
cis-1,2-Dichloroethene		9.44	ug/L	1.0	94	75	122	2.5	20	
trans-1,2-Dichloroethene		9.84	ug/L	1.0	98	75	124	0.8	20	
1,2-Dichloropropane		10.5	ug/L	1.0	105	75	127	7.4	20	
cis-1,3-Dichloropropene		10.6	ug/L	1.0	106	73	124	3.9	20	
trans-1,3-Dichloropropene		9.76	ug/L	1.0	98	72	127	3.3	20	
Ethylbenzene		10.7	ug/L	1.0	107	74	125	2.3	20	
2-Hexanone		102	ug/L	40	102	70	128	4.8	20	
Iodomethane		7.56	ug/L	1.0	76	52	130	8.6	20	
Methyl ethyl ketone		82.4	ug/L	40	82	56	141	1.0	20	
Methyl isobutyl ketone		91.2	ug/L	40	91	71	121	0.0	20	
Methylene chloride		7.54	ug/L	1.0	75	61	125	1.5	20	
Styrene		11.1	ug/L	1.0	111	75	120	3.7	20	
1,1,1,2-Tetrachloroethane		10.7	ug/L	1.0	107	76	122	1.5	20	
1,1,2,2-Tetrachloroethane		7.74	ug/L	1.0	77	67	124	3.5	20	
Tetrachloroethene		11.0	ug/L	1.0	110	75	126	3.7	20	
Toluene		11.0	ug/L	1.0	110	73	122	2.2	20	
1,1,1-Trichloroethane		10.1	ug/L	1.0	101	76	124	0.0	20	
1,1,2-Trichloroethane		10.7	ug/L	1.0	107	72	125	3.0	20	
Trichloroethene		10.9	ug/L	1.0	109	72	126	3.7	20	
Trichlorofluoromethane		9.60	ug/L	1.0	96	73	131	2.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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Lab ID: H15060101-002EMSD	53	Sample Matrix Spike Duplicate			Run: 1SATURN_150604A			06/04/15 19:34		
1,2,3-Trichloropropane	38	8.64	ug/L	1.0	86	58	142	2.7	20	
Vinyl acetate	141	9.68	ug/L	1.0	97	47	154	0.8	20	
Vinyl chloride	301	8.96	ug/L	1.0	90	69	129	6.1	20	
m+p-Xylenes	357	22.8	ug/L	1.0	114	72	124	2.5	20	
o-Xylene	357	12.0	ug/L	1.0	120	74	123	2.6	20	
Surr: 1,2-Dichloroethane-d4	251	19.08	ug/L	2.0	92	69	131			
Surr: Dibromofluoromethane	301	18.78	ug/L	2.0	84	70	125			
Surr: p-Bromofluorobenzene	301	18.52	ug/L	2.0	86	76	123			
Surr: Toluene-d8	301	18.32	ug/L	2.0	100	80	119			
- 2-Chloroethyl vinyl ether will degrade in acid-preserved samples.										

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Work Order Receipt Checklist

Barry Damschen

H15060100

Login completed by: Tracy L. Lorash

Date Received: 6/4/2015

Reviewed by: BL2000\williams

Received by: jcm

Reviewed Date: 6/9/2015

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☒	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☒	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☒	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	3.7°C On Ice		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	Not Applicable ☐

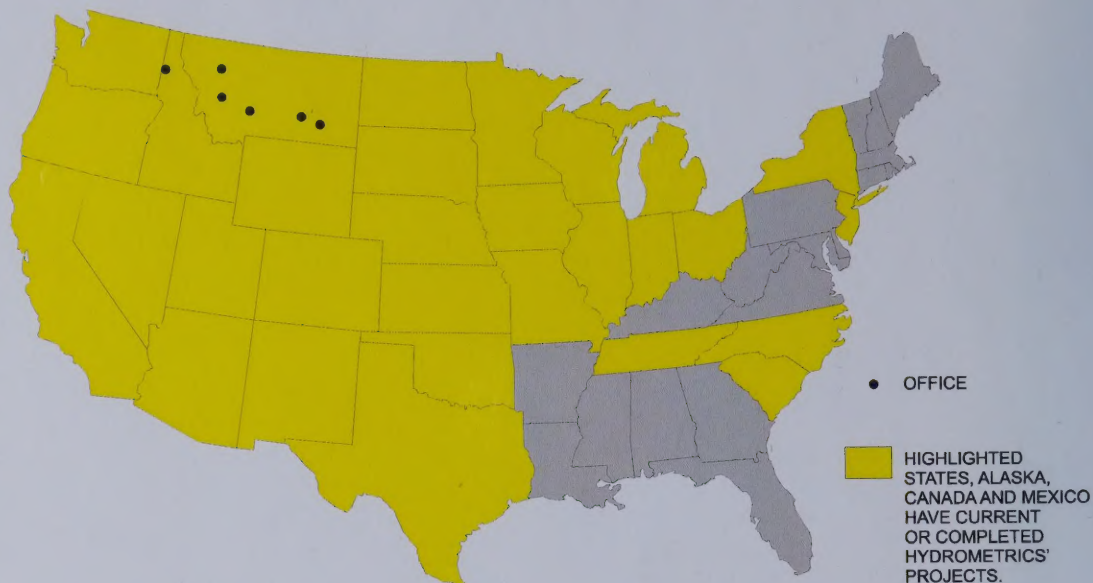
Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Sample ID on COC is SIMW-3 -ID on bottles is SISW-3. Logged in with ID from COC as historical.
Sample ID on COC is SIMW-4D -ID on one vial is SIMW4D. Logged in with ID from COC. tl 6/8/15



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